CONTENTS

SEPTEMBER, 1925

Honey Markets		568-569
Editorials		573-575
What the Honey Market Needs	Samuel Cushman	576-578
The Care of Virgin Queens	Allen Latham	579-581
Selling State's Honey Crop—Plus	Benjamin W. Douglass	581-584
Movable Apiaries in Austria	Louis Alfonsus	584-585
Marketing Buckwheat Honey	Louis D. Blachly	586-611
Packages Instead of Wintering	Ellsworth A. Meineke	587
Beekeeping in England	Harry Lathrop	587-588
The Straight Uncapping-Knife	Leslie Burr	588-589
Notes from Foreign Bee Journals	W. J. Nolan	589-590
Filling Two Cans at a Time	Henry Stewart	590-591
Honey in Preserves and Jelly	Ruth Jordan	591
A Beekeeping Library	Prof. E. F. Phillips	591-592
Siftings	J. E. Crane	593
From North, East, West and South		594-599
Heads of Grain from Different Fields		600-602
Talks to Beginners	Geo. S. Demuth	603-604
Just News		605
Gleaned by Asking	Geo. S. Demuth	606-607
Bees, Men, and Things		608
A. I. Root's Story of His Life		609-611
Sour Honey Department		617-623

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Geo. S. Demuth and E. R. Root, Editors
H. H. Root, Assistant Editor
H. G. Rowe, M'n'g Editor

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	25	50	100	200	500	1000
2½-pound cans	$1.30	$2.40	$4.15	$8.25	$20.00	$39.00
5-pound pails	2.00	3.50	7.00	13.75	33.00	64.00
10-pound pails	2.90	5.00	10.00	19.75	48.00	94.00

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60-lb. Cans, 2 cans to the case f. o. b. Lansing.

Per case	$ 1.20
10 cases	11.50
25 cases	28.50

60-lb. Cans, 2 cans to the case f. o. b. cars Detroit

50 cases	$ 51.00
100 cases	98.00
200 cases	192.00

5-gallon cans in bulk, $9.25 per crate of 24.

Above pails are packed 50 to the carton and will keep bright and clean until time of using. 2½-pound cans, 100 to carton. Above prices are f. o. b. cars Lansing.

A grade tin paste for labels, per pint, 25c; per quart, 45c; per gallon, $1.50.

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	1 case	10 cases	30 cases
6½-ounce tumblers, 48 to case	$1.35	$13.00	$37.00
16-ounce round jars, 24 to case	1.35	13.00	36.50

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These cases provide an inexpensive package for handling comb honey. They are partitioned so that each section is in its own compartment.

	10	50	100
24 4¼x4¼x1⅞-inch Sections	$2.20	$10.75	$21.00
24 4¼x4¼x1½-inch Sections	2.00	9.75	19.00
24 4 x5 x1⅜-inch Sections	1.90	9.25	18.00

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We furnish adhesive for sealing the corrugated paper shipping cases as follows: 1 pint, 15c; 1 quart, 20c; 1 gallon, 60c. Order one pint of adhesive for each 10 cases, or 1 gallon for each 100 cases purchased.

We also furnish lithographed honey pails, cartons for comb honey, and display and wood comb-honey cases.

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HONEY MARKETS

U. S. GOVERNMENT REPORT.
Information from Producing Areas (first half of August).

CALIFORNIA POINTS: Southern California—Local conditions and results have varied greatly. While some bees are doing fairly well, others on ranges only a few miles away will only fill the hives for winter feed, with no surplus. Except for the sage country along the Coast, it has been about the poorest season on record, especially in the orange section and back country. One report was received to the effect that the total orange honey extracted may not amount to much over 15 cars. Many bees from southern California are now working on star thistle in the northern part of the state. Shipments of bees on the way during the recent hot wave melted down badly, and heavy losses were reported also from desert sections during the hot period. Buckwheat is blooming well and will provide a light flow. On the back country of Riverside County many beekeepers secured no surplus at all and will go into winter with decidedly insufficient stores, although in some areas summer showers added to the flow. Many neglected colonies and considerable American foul brood reported. Many beekeepers are reported dissatisfied with marketing conditions and offered prices, and some talk is heard of further efforts along co-operative lines. Beekeepers are generally asking 14-15c per lb. for white orange extracted, with buyers offering 12-13c per lb. or less, and some sales reported at 11½ per lb. Sage extracting is over, and beekeepers are offering 9c per lb. for light amber with beemen asking 10c per lb. or more. In the Imperial Valley the honey flow is slowing up, but bees will make enough more to provide winter stores. Several cars are ready to ship. One car light amber alfalfa reported sold at 7½c per lb. Beemen are generally asking 8-9c per lb, buyers offering 7c, and a few ton-lot sales made at that figure. Central California—Owing to the unusually late rains, cool weather and heavy swarming, bees are not as strong as normal for the fall flow, which promises to be good. Few ton-lot sales light amber alfalfa reported at 6½c per lb. Northern California—The thistle flow began later than last year, but is now yielding well. Alfalfa plants reported troubled by root worms, and are yielding slowly. In some sections, 60 lbs. per colony has been extracted from the toyon or Christmas berry. One car dark amber honey, poor flaflvor, reported sold at 6½c per lb.; ton lots, 7-7½c; few 60-lb. cans light amber, 10-10½c per lb.; No. 1 white comb, $4.80-5.00 per 24-section case; dark comb, $4.32. Beeswax 30c per lb.

PACIFIC NORTHWEST.—Indications are for a short crop—in some cases only one-quarter of last year's. Hot, dry weather curtailed the yield from second crop alfalfa, and third crop is being cut before bees have had much chance to work on it. In fruit districts bees were too weakened by spray poison to gather much surplus. Many queens did not lay all through July, owing to excessive heat. Many inquiries for honey, but few actual sales reported. Ton lots and 60s white to light amber alfalfa, 9½-10c per lb.; many beekeepers asking 11c per lb.

INTERMOUNTAIN REGION—First crop alfalfa has been gathered and bees are now working on second crop. Beemen are now busy extracting. The yield will be irregular. In many areas it will not be up to earlier expectations, being curtailed by hot weather, disease, lack of water, or excessive swarming. Parts of Wyoming report practically no rain since July 1. On the whole, however, a better-than-average crop is looked for. One Montana beekeeper, with a surplus already of 225 lbs., expects an average of 300 lbs. before the season ends. The honey is of variable quality; some is very white, some off-color. Most beekeepers have been too busy extracting to pay much attention to the marketing end so far. The ideas of different beemen are even more widely apart on price than usual. Several cars white sweet clover and alfalfa have been sold for 8½c per lb. 1 at 9c per lb.; ton lots and 60s, 9-14c; small pails, 10-15½c per lb. Carlot offers at 9c per lb. have been refused by some beekeepers, however, and the Wyoming Beekeepers' Association, representing 41 carlot producers, has voted to hold for 11c per lb. One car comb honey reported sold for $4.50 per case for fancy, $4.25 for choice; some case lots No. 1 sold for $4.50. Beeswax, 26-32c per lb.

ARIZONA—Cotton now is good and the outlook is for a cotton crop above normal in quantity. Mesquite is blooming again, but not much honey is expected from desert plants during the balance of the season as rains have been insufficient. One small car amber alfalfa extracted sold for 7c per lb.; light amber mesquite is moving at 8½c per lb. in case lots.

NEW MEXICO—The nectar flow is nearing an end, and nights are cool. A short flow is expected from third cutting of alfalfa and second bloom sweet clover. Extracted honey has been selling locally in small lots at 12½c per lb.

TEXAS—Local showers have fallen, but in some cases have been insufficient or too late to help the honey plants. Cotton revived sufficiently in the northeastern part of the state so that a late flow from that source is probable, although spray poison is weakening colonies in cotton areas. Bees are getting an abundance of pollen from elms, which are in bloom. Some sections still report continued drouth. Buyers reported showing more interest in honey lately. Few sales reported, light amber extracted, 60s 9c; small pails, 11-13c; amber, 60s, 7½c per lb.; bulk comb, light amber, 14-19c per lb. Beeswax has declined to 25c per lb.

PLAINS AREA—Continued dry weather cut short the yield in some areas, but generally beekeepers report a fairly good crop, some running 100-130 lbs. or better. Where rains have fallen, clover is still yielding slowly, and smartweed and other fall plants are coming right along. The outlook is for a fairly good fall flow. Southern Illinois, however, reports no surplus, and little prospect for a fall crop. The clover honey is of excellent quality. Buyers are purchasing rather slowly; but several carlots of white clover have sold for 9c per lb., ton lots, 11c; 60s, 12-13c; small pails, 14-15c per lb. One car white clover comb sold at $3.50 per case; carrier or case lots $4.50-5.00 per case.

EAST CENTRAL AND NORTH CENTRAL STATES—Frequent showers have kept clover in bloom longer than usual and bees are still working slowly on it, with sweet clover in full bloomfl Smartweed and other fall fiflowers are also starting, and a large acreage of buckwheat is reported in Ohio. The rain has increased the flow beyond earlier expectations. Wisconsin has the largest crop in over 10 years—6 to 8 supers of both comb and extracted being common in the southern part of the state. Most beekeepers, however, were short of equipment, which resulted in an unusual amount of swarming. Some beekeepers began to extract before the honey was thoroughly ripened. In northern Michigan beekeepers talk of an 80-100 lb. average, with prospects good for a late crop from fireweed. Southern Michigan has a crop of up to 150-lb. average in favorable locations. Ohio has a short crop, but larger than earlier indications forecast. Bees are brooding heavy, and should be in good condition for winter. The heavy crop is causing a tendency towards price cutting, though actual sales have not been many. Ton lots white clover sold at 9½-12c per lb.; 60s, 12-12½c; small pails, 11-15c; No. 1 white comb, $4.80-5.50; few, $6.00 per case; ungraded, $4.00 per case. Beeswax 32-35c per lb.

NORTHEASTERN STATES—Frequent rains have continued, hindering bees to some extent, but beekeepers consider the situation prefer-

able to cool, dry weather. The white clover flow is about over, the crop ranging from poor to fair along the Hudson River, to good in northern New York. New York has a fairly good buckwheat crop in prospect, while a Pennsylvania reporter says he is in the midst of the best buckwheat flow in years. Few sales reported yet. Ton lots of white to light amber clover have sold at 9-12c, mostly 10½-11c per lb.; 60s, 12-13c; small pails, 12-17c per lb.; 160-lb. kegs, 11c per lb.; buckwheat, small pails, 14c per lb; No. 1 white comb, $4.80-6.00 per case; No. 2, $3.60. Beeswax average, 32c; light-colored, 39c per lb.

SOUTHEASTERN STATES—Many colonies in Louisiana are now consuming the honey they stored during early July. The yield is generally short—one-half crop as a rule; sometimes less, and occasionally a normal crop. In favorable locations a little surplus is being secured. In Alabama bees are securing nectar from mint, but lack of rain is putting fall plants in a backward condition and may affect next year's plants also. South Georgia has had a good summer flow. Few sales extracted light amber reported in ton lots 10c; small pails, 12-15c; half barrel amber, 6½c; light amber chunk, 14c per lb. Beeswax, 28c per lb.

H. C. TAYLOR, Chief of Bureau.

(Continued on page 616.)

Report of Actual Honey Producers

Early in August we sent the following questions to actual honey producers:

1. What is the average yield per colony corrected to date this season in your locality? (a) Extracted honey? (b) Comb honey?
2. How does this compare with the average yield over a period of years for your locality? Give answer in per cent.
3. What portion of the entire crop of surplus honey does this represent in your estimation? Give answer in per cent.
4. At what price has honey been sold, or contracted for, if any, in large lots (carload or less) in your locality during the past month? (a) Extracted honey, per lb.; (b) Comb honey, fancy and No. 1, per case?
5. What are prices when sold to grocers in case lots? (a) Extracted honey in 5-lb. pails or other retail packages in terms of 5-lb. pails? (b) Comb honey, fancy and No. 1, per case?
6. What is the retail price to consumers in your locality? (a) Extracted honey in 5-lb. pails or other retail packages in terms of 5-lb. pails? (b) Comb honey, fancy and No. 1, per section?
7. How is the honey now moving on the market in your locality? Give answer in one word as slow, fair or rapid.

State.	Reported by:	Crop. Ex.	Crop. Comb.	Per cent. Av.	Per cent. Total.	Carlot prices. Ex.	Carlot prices. Comb.	Wholesale. Ex.	Wholesale. Comb.	Retail. Ex.	Retail. Comb.	Movement.
Ala.	J. M. Cutts	25		80	100					$.80		Fair
Ark.	Jas. Johnson	0	0							.25		
Cal.	M. C. Richter	122		120	100	$.14½				1.50		Fair
Cal.	Geo. Larinan	25		30	100	.12				1.00		Slow
Cal.	L. L. Andrews	7½		33	90	.12		.73		1.00		Fair
Cal.	M. A. Saylor	40	24	100	50			.65	4.25	.80	$.25	Fair
Col.	B. W. Hopper	125	80	100	90	.10	$4.50	.65	5.00	.80	.25	Fair
Col.	J. A. Green	80		120	95			.75		.90	.20	Fair
Conn.	Allen Latham	50	45	100	100			1.05	7.00	1.28	.38	Rapid
Conn.	A. W. Yates		z					1.00	7.50	1.30	.40	Slow
Fla.	Harry Hewitt	30		75	100			.80		1.00		Fair
Ga.	J. J. Wilder	70	40	100	95	.13¾	4.75					Fair
Ida.	Dr. J. E. Miller	35	12	50		.09½	4.50	.55		.75		Fair
Ill.	C. F. Bender		24	47					6.00		.30	Fair
Ind.	Jay Smith	50	30	75	75					1.25	.35	Fair
Ind.	E. S. Miller	60	40	90	50			1.00	5.75	1.25	.30	Fair
Ind.	T. C. Johnson	70	30	75	100			.90	4.90	1.15	.28	Slow
Iowa.	W. S. Pangburn	130	75	100	66		4.50	.75		.95	.28	Fair
Iowa.	E. G. Brown	100		90	50	.10		.75	5.50	1.00	.35	Rapid
Iowa.	F. Coverdale	100	55	100			4.00		4.80	.75	.23	Fair
Kan.	J. A. Nininger	150	100	200	75			.75	5.75	1.00	.30	Rapid
Ky.	P. C. Ward	0	0		95							Slow
La.	E. C. Davis	75		75	85	.07¾		.75		1.00		
Me.	O. B. Griffin		10	20	100			1.10	7.00		.35	Fair
Md.	S. G. Crocker	35	25	60	95			1.00	5.75	1.50	.30	Slow
Mich.	L. S. Griggs	40	25	60	95		5.75	.80	5.75	1.00	.35	Fair
Mich.	F. Markham	60	50	60	90			.80	5.50	1.25	.30	Slow
Mich.	I. D. Bartlett	75		75	70			.88	6.00	1.25	.35	Fair
Mich.	E. D. Townsend	50		70				.65				Fair
Mich.	B. F. Kindig	60	50	60	80			.73	5.25	1.00	.30	Fair
Minn.	Francis Jager	75	137	150	100	.11			5.25	1.10	.35	Fair
Mo.	J. H. Fisbeck	40		75	75			1.00		1.25		Slow
Nev.	G. G. Schmeis	80	50				4.00					
N.Y.	N. L. Stevens	35	20	80	40	.11						
N.Y.	O. J. Spahn	75	30	65	75					1.25		Fair
N.Y.	O. J. Spahn	75	30	65	75						.33	Fair
N.Y.	F. W. Lesser	30	25	50	90	.12	5.00	.75	6.00	1.00	.30	Slow
N.Y.	R. B. Willson	60	40	80	75			.80	5.15	1.10	.28	Fair
N.C.	C. S. Baumgarner		10	50	50			1.00		1.25	.35	Slow
Ohio.	F. Leininger	40		20	100	.12	5.00			1.15	.25	Fair
Okla.	Jos. Heueisen	40		60	80					1.25	.35	Fair
Okla.	C. F. Stiles	20	0	40	50			.90		1.15	.30	Slow
Ore.	H. A. Scullen	100		125	100					.95	.25	Fair
Pa.	D. C. Gilham	12	35	115	65			1.05	7.20	1.40	.42	Fair
Pa.	Harry Beaver	60	30					.70	4.75	.80	.25	Fair
S.C.	E. S. Prevost			60		.16				1.00	.35	Fair
S.D.	L. A. Syverud	130		90	90				4.80	1.00	.25	Fair
Tex.	H. B. Parks	30		50	100	.10		.70		.75		Slow
Tex.	J. N. Mayes	80	20	40	100	.10	7.50			.75		Fair
Utah.	M. A. Gill	160	80	100	80		4.00		4.88	.55	.22	Slow
Vt.	J. E. Crane		35	125	90			1.00	6.50	1.25	.35	Fair
Va.	T. C. Asher	50	30	90	100			1.10	6.00	1.25	.35	Slow
Wash.	G. W. B. Saxton	65		75	75			.60		.70		Slow
W.Va.	T. K. Massie		5	10	100					1.00	.35	Slow
Wis.	N. E. France	85	50	105	100			.90	4.00	1.00	.28	Fair
Wis.	H. F. Wilson	75	30	100	100				6.00	1.15	.35	Slow
Wis.	E. Hassinger	110		115	100	.11		.80		1.00		Slow
Wyo.	A. D. Brown	140		150	75					1.00		Fair

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Glass and Tin Honey Containers

2½-pound Cans, in cartons of 100	$4.00 a carton
5-pound Pails, in cartons of 50	3.50 a carton
10-pound Pails, in cartons of 50	5.00 a carton
60-pound Tins, new, 2 tins per case	1.00 each
160-lb. Kegs (the ideal container for both buckwheat & clover honey)	1.20 each

Glass Jars with Gold-Lacquered Caps

16-ounce honey capacity, 2 dozen per carton	$1.20 per carton
3-pound or quart capacity, 1 dozen per carton	.90 per carton

Special Hazel-Atlas Tall Jars, Including Caps

8-ounce honey capacity, 2 dozen per carton	$1.05 per carton
16-ounce honey capacity, 2 dozen per carton	1.35 per carton
2-pound honey capacity, 1 dozen per carton	.95 per carton

Honey for Road Stands

White Clover, 60-pound tins, crystallized	13c per lb.
White Clover, 60-pound tins, liquid	14c per lb.
L. A. Southern, 60-pound tins, liquid	12c per lb.

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Special Bargains for September

Standard Hoffman Frames, corner-cut top-bar	$4.75 per 100
Shallow Frames, corner-cut top-bar	$4.00 per 100
Shallow Frames, grooved top-bar	3.50 per 100
10-frame Hive-bodies with frames	5.50 per 5
10-frame Hive-bodies, empty	3.25 per 5
10-frame Shallow Supers, with frames	4.00 per 5
10-frame No. 1 Style Comb Supers	4.00 per 5
Sections, size 4¼x4¼x1⅞, A Grade	5.00 per 500
Sections, size 4¼x4¼x1⅞, B Grade	4.00 per 500
Foundation, Medium, 25-lb. lots, 55c per lb.; 5-lb. lots	60c per lb.
Foundation, Thin, 25-lb. lots, 65c per lb.; 5-lb. lots	70c per lb.

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75c each

in lots of 100

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Quantity:	1-9	10-24	25-49	50-99	100 or over
Untested - - - -	$1.20 ea.	$1.00 ea.	$.90 ea.	$.80 ea.	$.75 ea.
Select Untested -	1.50 ea.	1.40 ea.	1.20 ea.	1.10 ea.	1.00 ea.

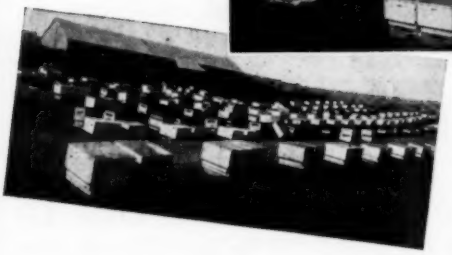
Tested, $2.50 ea. Select Tested, $3.00 ea.

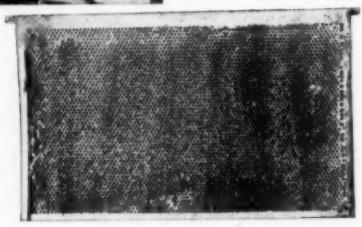
The A. I. Root Company

West Side Station Medina, Ohio

"We use about 1000 pounds of Wired Foundation a year and are very highly pleased with the perfect combs produced"
---E. L. Hofmann

He further says: "If other beekeepers have been as successful with Wired Foundation as we have been in drawing out thousands of combs in old-style Dadant frames, you will likely have a tremendous demand. Our new combs in these large frames averaged more than ten pounds of honey per comb. The season was an extremely hot one here, but there was no sagging at all. Wired foundation surely fills a long-felt want."





Above are two of the Hofmann apiaries at Janesville, Minnesota. The central extracting-plant and the general equipment of these bee-yards are among the best and most efficient in the world.

It is this kind of combs drawn from Wired Foundation, in his big frames, that gives Hofmann his immense honey-producing colonies.

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BEESWAX WANTED—Highest prices paid, cash or trade.

GLEANINGS IN BEE CULTURE

SEPTEMBER, 1925

EDITORIAL

THERE is but little to be added to what was said in the August issue on this subject, except that weather conditions have been favorable to nectar secretion in August and that the crop in many localities has been increased during the month. Reports indicate that buckwheat is yielding well and that the honey crop from this source should be normal or above. While it is too early to estimate how this season's crop will compare with that of last season, the indications now are that the 1925 honey crop will exceed that of 1924 for the entire United States. However, in several important consuming regions the crop is much less than last year, so that careful distribution may take care of the bumper crops secured in some of the more extensive producing centers.

Honey Crop Conditions

While the exports of honey from the United States to foreign countries are not very great, it is interesting to note that during the fiscal year ending June 30, 1925, the total exports of honey, according to data secured through the Bureau of Foreign and Domestic Commerce, were more than three times as much as during the fiscal year just preceding, and at the same time less was imported. Other favorable conditions are the fact that the 1924 honey crop was fairly well cleaned up before the new honey appeared on the market, and general industrial conditions are at least fair.

As to the trend of prices to be expected during the next few months, one person's guess is perhaps as good as another's. Before establishing prices on this season's crop, Gleanings urges every beekeeper who has honey to sell to study carefully our market pages in order to be informed as to prevailing prices in the various regions.

THERE is an old saying among beekeepers who market their honey through local dealers that honey sales are better during seasons when good crops are secured than when the honey crop has been short. This is sometimes explained by pointing out that the honey is of finer quality during good seasons, which, of course, should increase sales But this does not fully explain this peculiar condition. No doubt an important factor helping to bring about a greater consumption of honey in a locality where a good honey crop has been secured is that when the crop is good people are talking about honey and when the crop is poor but little is said about this delicious food. This is especially true in localities where there are a number of small beekeepers whose enthusiasm during good seasons causes the news to be spread about that honey of good quality is available. If such news could be spread about in any given locality during a poor season, the sales could no doubt be brought up to that of a good season, provided a good quality of honey can be obtained to supply the demand.

Honey Sales Helps

There are several ways by which beekeepers can bring honey to the attention of the public at very little expense. If the local papers run a market quotation column, quoting current prices of live stock, grain, fruit, and vegetables, the editor can no doubt be induced to add honey to the list and thus have honey advertised in every issue without charge. If he is reluctant to do this, a present of a few pounds of honey is sometimes all that is necessary to bring the desired results. If this is not sufficient, the editor might be invited to visit the apiary and honey-house to see how honey is produced and to get some idea of the importance of the industry. This often paves the way to a write-up on bees and honey, which is of great value to the honey-producers of the region. But don't have the brood diseases mentioned, for this prejudices the reader against honey.

MANY inquiries are now reaching the Editor's desk concerning the advisability of requeening at this season. Apparently many do not recognize the danger that may come from interfering with brood-rearing during the six or eight weeks just preceding its cessation

Requeening in September

for winter. If requeening can be accomplished now without reducing the amount of brood reared in September, all should go well; but if requeening is done in such a manner that egg-laying is stopped for a week or two at this time the newly-introduced queen may not be able to make up the loss before brood-rearing is suspended, thus leaving the colony short of young bees for winter.

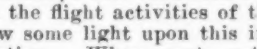
In the case of an old queen that is failing, a colony may be put in much better condition by introducing a vigorous young queen even at this time, but if the old queen is laying well, the break in brood-rearing incident to replacing her with a young queen may be a decided disadvantage. In some cases where it is desirable to requeen after the first of September it may be advantageous to make a strong nucleus from the colony to be requeened and introduce the young queen to the nucleus, thus permitting the old queen to continue laying for some time after the young queen has been introduced. Later, the old queen can be killed and the nucleus united with the colony by the newspaper plan.

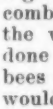
Colonies can be requeened even in October after brood-rearing has ceased in the North. In this event, there is no loss brought about by a break in brood-rearing, since the young queen is introduced after brood-rearing has been suspended for the winter. However, the advantage of the increased egg-laying of the young queen during the period when the young bees for winter are reared would be lost.

Distances Bees Fly to Rob

IN his article on page 599, Mr. Byer brings up an interesting question in regard to exposing extracting combs outside to have them cleaned when bees belonging to others are near. Just how far away the other bees would have to be in order not to find the exposed combs is a question that would be difficult to answer unless considerable experimenting were conducted along this line. Even then the answer may not be definite since there is no doubt considerable variation in the distance bees go to rob, depending upon circumstances. Apparently some strains of bees are better searchers than others, probably sending searchers to greater distances. This would explain the occasional colony that is apparently able to find exposed honey when other colonies do not. This is also true in the case of remote sources of nectar. Other factors, such as the character of the country as well as the distribution of the source of nectar are known to influence the distance bees will fly in visiting flowers. Whether the same rules apply to robbing is another question.

Most of the records of bees going great distances for nectar have been explained by some peculiar conditions, such as a narrow valley in a mountainous country compelling the bees to work a long narrow strip of territory. In an open flat country it is now believed that bees do not go beyond one and one-half to two miles from the apiary. It is doubtful if robbing would occur at anything like the distance that bees go to gather nectar. Perhaps a mile or less would be a safe distance under most conditions, although no doubt if wet extracting combs were exposed at short intervals over a much greater distance bees could be induced to go several miles from home to rob. Perhaps Mr. Hamilton's experiments on the flight activities of the bees will throw some light upon this interesting question. When wet extracting combs are exposed near a large apiary, the work of cleaning out the combs is done so quickly that it is doubtful if bees from colonies a half mile away would discover them before the work of cleaning is finished.





Intermittent Honey Flows

IN that part of the clover region where the clover was so severely injured by the drouth in May and early June but later revived by beneficial rains there have been several little spurts of nectar with periods of bad weather between which caused the bees to crowd much honey into the brood-chamber, thus greatly restricting the work of the queen. In some cases old queens stopped egg-laying almost completely in July, thus resulting in small colonies in August. In portions of this region this would not have been a serious disadvantage in ordinary seasons, when but little if any nectar is available after the middle of July or first of August. However, this season, owing to good rains in some localities, alsike came back into full bloom after the first cutting, and apparently both the second crop of alsike clover and red clover have been furnishing considerable nectar in August. Colonies in which brood-rearing was so restricted in July were in poor condition to gather available nectar in August.

This gives the beekeepers in this region an illustration of the problems beekeepers in some other localities are facing. In some southern locations there may be a series of honey flows throughout most of the summer with intervals of dearth between. In many cases each of

these honey flows is slow and tapers off toward the close, bringing about this crowded condition in the brood-chamber sometimes resulting in but little brood being reared. This is especially true of Italians, and one can understand why beekeepers in such localities look with favor upon Carniolans, since they are less inclined to restrict brood-rearing under these conditions than are Italians. On the other hand, the beekeeper located where his surplus honey comes from a single source, the entire crop often being gathered within a few weeks, is quite right in being pleased with the behavior of Italians in restricting brood-rearing in July and early August, when the resulting young bees would be of no value as nectar-gatherers. This is only another illustration of the differences in management made necessary by differences in localities.

The variation in any given locality from season to season is a good reason why every beekeeper should study the conditions prevalent in other locations and the methods beekeepers have worked out for these conditions, since a freak season may come at any time, making it necessary to adopt the management used in some other locality in order to fit the new conditions.

"Honey Has No Competitor"

IN the discussion of the marketing problem at beekeepers' meetings the expression "Honey has no competitor" is often heard. The idea that honey is in a class of its own where it is not influenced by other articles of food and that its price is controlled solely by the amount produced, is apparently entertained by many producers. The argument is sometimes put forth that even such articles as sugar, molasses, maple syrup, jellies, and jams have no influence upon the demand for honey. Those who set forth these arguments can not understand why there should be any sales resistance for honey and are inclined to blame their marketing troubles upon other producers who are flooding the market with honey or upon the dealer who is unwilling to buy their product. This view of the situation would put the producers in a helpless position in which about the only remedy would be that of curtailing production and thus bring the unwilling buyer to time.

On the other hand, it will be remembered that the demand for honey was tremendously increased during the sugar shortage incident to the World War, so that the price of honey shot upward out of proportion to many other items of food, thus indicating that sugar is a competitor of honey. Again, it has been demonstrated time and again that a shortage of fruits tends to increase the demand for honey. The per capita consumption of honey in this country is apparently much higher in those districts where but little fruit is grown, thus indicating that the fruits are in direct competition with honey.

While honey is in a class of its own in the same sense that strawberries and potatoes are each in a class of their own, it must compete not only with sugar, maple syrup, jellies, jams, and fruits, but with practically all articles of food which are being pushed on the market today. The difference in the status of honey is largely in not being as well known as many other articles.

Morley Pettit hits the nail on the head in his article in the July issue of this journal in speaking of the "battle of foodstuffs" that is now taking place in the markets. With the great array of articles of food now being so vigorously pushed on the market there is actually danger of honey being crowded out almost entirely unless it is pushed with greater vigor. Instead of resting on our oars with the thought that honey has no competitor, it is high time to wake up to a full realization of changing conditions in the merchandizing of foodstuffs in this country.

The article in this issue by Samuel Cushman, beginning on page 576, will bring back to the minds of older beekeepers the days when nearly every grocery store had a display case of comb honey on the counter or in full view in some other conspicuous place, thus constantly reminding the customers of honey. Today only the larger stores display comb honey, as a rule, and the jars of extracted honey are usually put back on a shelf among the jams and jellies where they are not readily recognized as honey, and many stores do not handle honey in any form. So many other articles of food have been pushed to the center of the stage that in smaller centers honey is forgotten by the consuming public during poor seasons and is only brought to their attention during good seasons when local producers have an abundant supply. This is the strongest kind of argument for beekeepers whose crop is short to purchase from others who have a surplus and thus keep honey in a prominent place in their local markets, and so help in the "battle of foodstuffs," and prevent honey from being crowded out of the market by the great multitude of other articles of food now being pushed with so much vigor.

WHAT THE HONEY MARKET NEEDS

By Samuel Cushman

How to Quickly Increase the Demand. A Practical Plan to Push Sales in all Retail Stores

Without doubt the greatest needs for increasing the sale of honey are to advertise its merits more widely and to display it constantly and attractively in food stores in every part of the country, with sales clerks well informed about honey. A few producers have already done this to quite an extent in their own territory. The great need is to have it done systematically in all parts of the country. It may take considerable time before the American Honey Producers' League is strong enough financially to carry out its plan to conduct a national advertising campaign in magazines and newspapers. Uniform grading laws, honey market reports, and uniform net-weight requirements should greatly aid in stabilizing the honey market, but all this is of slow development and takes time. What can be done at once that will bring quick results?

The Main Idea

Let the producer in his own neighborhood, the wholesale food houses in their own territories, and the honey-bottlers and jobbers in their respective sections of the country all push a campaign to display honey as other foods are displayed. Let them instruct the retailer how to sell honey successfully, when to buy it, how to display it, how to keep it, and how to avoid having it left on his hands in an unsalable condition. Then assist him and protect him.

The Great Importance of Display

There seems to be no limit to the skill, space, and money devoted to making a display of the goods on sale today. The new development you admired last month probably will be excelled this month. What won your admiration last week takes a place second to what you see this week. There seems no such thing as overdoing it where there is a large population. The contents of grocery stores, food shops, and fruit markets are now wonderfully beautiful and constantly changing exhibitions pyramided in show windows and on counters, banked up against the walls and tastefully arranged on shelves, around pillars, and in show cases.

The foods that are shown are the foods that sell, and the foods that sell are given more and more space and greater display. No more old-time selling apples out of a barrel or oranges out of a box. Pile up the honey where it can be seen in all its beauty. Educate the retailer to display and placard his honey constantly. Get him to have an occasional honey day or honey week. It can be done in a widespread and big way. It has been done here and there successfully, but feebly.

Comb Honey Still Preferred

In spite of the great development of the industry and all that has been done to popularize extracted honey during recent years, two-thirds of the people still prefer comb honey and will buy no other. Dozens have lately told me that they have tried liquid honey, but that it spoiled (candied or commenced to) and they threw it away and never want any more. Yet we rarely see comb honey in food stores. If we do, it is usually but one or two cases on a side shelf or counter, and it is kept in its glass-front case. Occasionally we see two cases or one double-decker in a window.

Displays That Sell Comb Honey

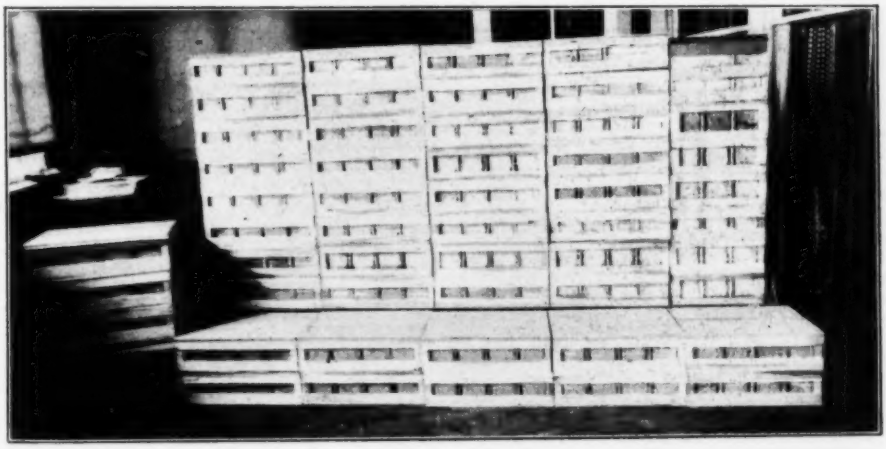
A tight all-glass case with glass shelves and a sliding or swinging door, filled with unwrapped sections, the virgin comb honey attractively arranged, never fails to attract attention and arouse the desire to buy. The larger the case and the greater the amount in sight, the greater the appeal. The local producer can furnish such cases, with his name or honey trade-mark in gold or white enameled letters on the front, to his retailers. They can be had of various sizes at retail from $8 to $18. Wholesalers and jobbers would buy in quantity where they are made.

A. I. Root's writings induced me to use such a case 40 years ago. It had a slanting front, a nickeled-metal frame, and on the front in white enameled letters, "Cushman's Comb Honey." The white poplar sections, with their four dovetailed corners held stiff with white glue, had a three-color label on the top of each. The illustration of a bee on a clover head was printed in gold and the wording was in scarlet and blue. The straight nickel-screw-capped jars of honey had a similar label. This case, first used at the Rhode Island State Fair at Narragansett Park, was later placed in a first-class fruit store in Providence, R. I., where it helped build up a regular trade.

The expense of show-cases might be lessened by the use of wide frames to hold rows of sections, 24, 36, or 48, one row above another. These should be glassed on both sides, similar to the single-comb observation hives. They could be built to take five capped extracting-combs half-story size or two or

three full-depth Langstroth extracting-combs, one above the other, to show what liquid honey comes from. These glassed frames could be held upright by side strips on a flat base, or hung from above by screw eyes in the ends. These could be made in quantity at low cost and shipped in the flat to be set up and glassed at destination to save breakage. Let wholesalers and jobbers place these show cases and honey-selling-slogan placards with their retailers. Glass-front shipping-cases would then be unnecessary and the corrugated-paper shipping-case might then be preferred.

I heard of a wholesale grocery salesman who persuaded a retailer to stock up with a large number of cases of comb honey and to display it in a prominent



A pile of comb honey like one of these located in a conspicuous place in a grocery store always attracts attention and increases sales of both comb honey and extracted honey. If corrugated paper shipping cases are used, a special display case should be furnished to each important store.

place. Some time after on calling he was much disturbed when he looked in and saw apparently the whole lot still stacked up and unsold. Expecting anything but a cordial greeting, he was much relieved when the merchant greeted him with a smile and said, "Well, you are just the man I want to see. I want some more comb honey." "What!" said the salesman, "with all that still there?" "Oh," was the answer, "those are all dummies. I have sold all in each case but the front rows against the glass."

A Recent Experience

Last summer I persuaded the Greek owners of a fruit market having a show window on a desirable corner in a high-class suburb to have a honey display and bee display in his window and placard it "Home-Raised Honey Today." They were fearful it would hurt their fruit sales and tried it very cautiously and doubtfully. A single-comb observation hive was displayed for several days with comb honey and bottled honey, together with five half-depth extracting-combs one above another on a rack. Honey began to sell and crowds stood in front of the window. Their own supply that had candied in bottles that had been on hand a long time, was melted up and soon disposed of. When the observation hive was taken away they soon wanted it back again.

As they were not satisfied to sell at the local retail price I was keeping up, with 20 per cent off for their profit, and sold mostly out-of-the-state honey bought in Water Street, I gained little for myself except the experience that the display still works as it used to. They have since told me they sold more honey that winter than in all the years they have been in business, and principally comb honey.

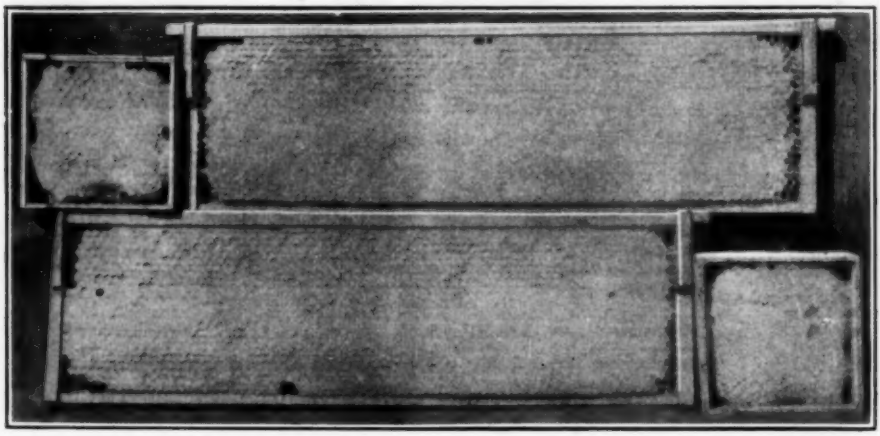
Observation Hive May be a Detriment

The single-comb observation hive with bees and a queen is a great attraction to start the display, but must be carefully prepared and attended to or it may do harm instead of good. I have seen observation hive displays in Baltimore and Chicago drug store windows where the hive remained after half the bees had died and the combs and glass were soiled with excrement.

A systematic display of such hives in many stores at one time should be in charge of one who understands their care. After being filled with bees they should be allowed to fly from a near-by stand so that the old bees, which will

soon die, may fly back home. Only the young bees will remain, so get enough of them at the start. When on display the few that die day by day may be slid into the hole at the flight-hole end, but they should be given a chance to fly all day twice a week, say Wednesdays and Sundays, after first clearing the flight-hole of the accumulated dead bees. They should be placed in the same spot each time since they know no other home. The sections of comb honey may be replaced with fresh ones at this time and the glass cleaned if soiled. They will keep sweet and clean if thus managed and be good for two or three weeks' display.

The greatest dependence should, however, be placed on the display of comb-honey sections taken from the cases and permanently displayed, protected from flies and dust, in the frame covered with glass on both sides, the honey-selling placards and the salesman's efforts.



Well-filled extracting combs with white cappings are excellent for display cases. They can be used to explain how extracted honey is produced. Such combs should always be used in demonstrating the process of extracting at fairs and in store windows.

This plan can be carried out on a large scale, and where there is a large population it can not fail to give immediate results. What used to be luxuries have now become necessities to the many. What is displayed creates desire to buy. What is shown in great amount must be desirable and good or others would not want so much of it. The very classes that used to buy the luxuries do not now. Neighborhoods that formerly bought only necessities now freely buy what they want. The habit is formed if they see comb honey, and the occasional luxury becomes a regular part of the food purchase.

Protect the Retailer

Has the retailer had trouble with honey? Probably comb honey not fastened at sides or bottom may have been dropped in transportation and arrived smashed. The sections may have come apart in handling, or may have sprung a leak while on sale. Some comb honey may have candied in the combs and therefore was not satisfactory to customers, so that there was a loss on the lot.

Educate the wholesaler and the retailer so that comb honey which candies early will be consumed early and not left on any one's hands. Use a less fragile section with full sheets of foundation fastened on all sides with melted wax to insure well-fastened combs. To prevent the dovetailed corner coming apart and the section getting out of square, fasten it rigid with white glue. We all followed this plan with the old four-piece section with four dovetailed corners 40 years ago, and it was stiff and strong. With well-fastened combs, well-filled sections, and fool-proof shipping cases, there would be less damage in transportation, and freight and express rates on comb honey could be reduced. Will the rigid four-piece section ever come back for this reason? Have the present fragile sections hindered the handling of comb honey by retail stores?

Chicago, Ill.

[Too often the producer considers his responsibility at an end when he has sold his honey to the dealer and has collected his money for it. In present day merchandising, this view of the matter does not work out well. It must be remembered that the honey is not actually disposed of until the consumer buys and uses it, so the wise salesman helps the dealer to sell his product.—Editor.]

THE CARE OF VIRGIN QUEENS

By Allen Latham

Importance of Young Queens' Being Cared for by Workers During First Hours After Emergence

There are many causes underlying the existence of a vast number of inferior queen-bees and the early demise of thousands of queens which should have inherited a life of long usefulness. Perhaps not the least of these is the neglect of queens in their virginal period. Why we should talk so much about the care of queens after they begin to lay and so little about the care of queens before they start laying is one of the mysteries of beekeeping.

Probably the fundamental cause of this neglect of the virgin queen is the desire to cheapen the cost of queens. Now, it is all right to cheapen the cost of queens provided we do not at the same time cheapen their quality. The southern breeder has a long season and other conditions favorable to queen-rearing. He is able to put out queens at a lower price than the northern breeder. To meet this competition, the northern breeder seeks to cut costs. I have been guilty myself in this matter. I think it will be worth while to tell of my experience with incubators.

Use of Incubators in Queen-Rearing

As every one knows, the chief cost of a queen is getting her mated and laying. It does not cost much to bring to maturity fifty cells and to keep them until the day the virgins emerge. This is not individual work. But just as soon as these virgins emerge they must be treated individually or disaster follows at once. Any breeder who has had an early virgin come out and cut down forty to fifty fine cells knows this to his cost. Of all the devices suggested for the individual care of queens, the incubator is the most alluring. I bought, therefore, an incubator and made 300 most excellent and scientificially constructed nursery cages for this 300-egg incubator. These cages were fitted out with block tin feeders, and every care was used to promote the welfare of the emerging virgins.

At once the problem of proper food arose. Diluted honey seemed all right, but it soon developed that virgins can not thrive on diluted honey many hours. They need the prepared food from the nurse-bees. So this diluted honey was enriched with royal jelly from all possible sources. At once a peculiar difficulty arose. The virgins gorged themselves on this food and suffered from overeating. To cut a long story short, I never succeeded in finding food which satisfactorily kept virgins for 24 hours or longer. Now the value of the incubator lies in the possibility of keeping the virgins for a period of several hours to a day or so, so that lump work can be carried out. If one has to go through the incubator every few hours and take out all virgins ready, then the cost jumps at once.

For weeks and months no apparent harm came about, and then complaint after complaint came to me that my queens failed quickly or became drone layers. As this trouble had never occurred before, I could lay it to only one thing—the incubator. I stopped using the incubator and at once my complaints almost ceased. They never quite cease, as every honest breeder will acknowledge.

An Objection to the Use of Nursery Cages

Several devices are still made for helping out in this problem of caring for virgin queens. As these devices are still made and sold, I suppose that I am too stupid to use them successfully. I refer to nursery cages to fit into frames and to cell-protectors. I have no use for any such things. They cause more harm to queens, in my opinion, than anything ever devised. On the face of it there appears to be no harm in caging forty cells and setting that frame of cages into a strong colony. But in doing this we work right against one of the instincts of the bee. It is the inborn nature of bees to form early a favoritism in queens. They even do this before the virgins emerge, and one or two cells are always selected by the bees upon which to lavish extra care. Now, when these cages acquire their virgins one or two queens are soon selected by the bees and these are well fed. The rest are neglected. You may deny this—prove your denial. The cage is not so bad as the cell-protector. Of all the obnoxious devices ever got out, the cell-protector should be awarded the prize. I would not give 5 cents for a thousand of them. I would not use them under 25 cents each and then I should want a written guarantee that my queens would be bought and no complaints be thereafter made.

No, there is only one way, as I see it, whereby we can get the best results in queen-rearing, and that is for each virgin to emerge free amongst the bees.

The objection to this plan of caring for virgins is its cost. The honesty of queen-breeders is sorely tried here. So many purchasers of queens would rather

pay only sixty cents for a cheaply reared queen than to pay $1 to $1.50 for a decently reared queen. It is short-sightedness on their part, for the investment is poor. Like most cheap and low-priced investments, the profit is either small or entirely lacking. Why pay sixty cents for a queen and get a five-dollar crop of honey, when by paying $1.50 for a queen you are likely to get a crop of honey worth $15? I do not wish to be understood as stating that all low-priced queens are inferior queens. I am stating a general principle, and in the long run a general principle should govern our actions.

Is there any legitimate way to lower the price of queens and still stick to the habits of the bee? There is. It lies in the baby nucleus. There is a prejudice on the part of many against the baby nucleus, and it is probably warranted. Unless properly manipulated the baby-nucleus is a bane to both the queen-breeder and to the queen-purchaser. When properly used, the baby-nucleus reduces the cost of a queen without impairing her quality. I am certain of this last statement, for I have proved it many thousands of times.

To Prevent Absconding in Baby Nuclei

My use of the baby nucleus is fundamentally different from that of all others, so far as I know. The queen-breeder has in many cases come to dislike this small nucleus because of absconding. Absconding in my case has reached such a minimum that rarely in the earlier months does one in 300 abscond, and then it is because I have failed to do my part in some way. Later on, in August, the absconding problem becomes more acute, but even then it can be controlled fairly well. The great difficulty in this matter lies in the fact that a wrong principle is taught. We are taught that we must put brood into these nuclei to prevent absconding. In my experience the presence of brood brings about absconding. When I leave out the brood I almost never have a nucleus abscond, whereas if I use the brood I sometimes have 75 per cent of them desert the hives.

I am aware that the last statement will be taken with incredulity on the part of my readers; but when I say that I have 700 of these little nuclei and state that for weeks at a time not one of them absconds, please believe me. No, it is not brood that will hold the bees, it is food. I will add to this last statement—and removal of the young queen within a week after she starts laying. If she is not removed very promptly 90 per cent will abscond.

When I have a batch of cells ripe and I can already hear some inmates scratching the cells with their mandibles, I hasten to care for those cells. My nucleus hive has inside dimensions of eight inches in length by four and one-half inches in height and width. The bottom is removable. In one end there is a half-inch hole near the bottom with a sliding cover. Next to the front, close to only a bee-space, a section of honey is wedged in. Forty such hives are previously made ready and the cells are then cut off the bars and inserted in an insulated box. A cup of melted wax is all ready at hand. Into each hive in turn a drop of wax is let fall close back of the section and a cell placed on the melted wax. It takes only a few minutes to place the forty odd cells.

In the meantime the hive from which the cells were cut has been smoked and kicked. These bees are now shaken into a large smooth-walled box made for the purpose and as quickly as possible a cup of bees is dumped into each nucleus box and the bottom put in place. The forty nuclei are packed together in large boxes and bran sacks placed over the whole. Their mutual heat soon warms up these large boxes and the virgins soon emerge right among the bees. They are left thus for 48 hours and at dusk on the second or third day (apparently it makes little difference which) the boxes are placed on the mating stands, and opened up. The bees fly but little that evening, but the next morning they fly and mark their location.

If one does not believe that bees select favorites, let him set out near together a dozen of these nuclei at the end of twenty-four hours and in the middle of the day. The next day he will find ten or eleven almost completely deserted, possibly a queen and three or four bees in each. In the other one or two will be found all the rest of the bees, and with them a markedly vigorous and agressive queen.

Within three days after these nuclei are set out each is given four or five ounces of candy made from powdered sugar and honey. If this is not done they consume the honey in the section disastrously and they are quite likely to desert when the queen takes her mating flight. Also when the queen returns she is quite likely to be balled. The presence of the slowly taken candy keeps all harmonious.

Strangely enough, queens in these nuclei treated thus mate more promptly than do queens in full colonies. They almost invariably mate on the sixth or seventh day and rarely fail to start laying on the ninth day. Practically every queen not laying on the ninth day is laying on the tenth. Most queens are

ready to mail on the twentieth day from the day the cups were grafted.

All is serene if orders take the queens as soon as ready. If orders are slow and these queens have to be kept, the cost mounts up. Having orders booked in advance, I stock cages with food and young queenless bees and go to the mating yard. It takes a very brief time to remove the queens from these simple nuclei and cage them. I have on one occasion got back to the house in one hour and a half with 80 caged queens, and the yard is over a mile from my home.

Fresh Bees for Each Queen Mated

The next day all the nuclei robbed of their queens are taken to the home yard and the bees shaken out into a box and given a queen. If not given a queen they are dumped in front of some hive needing bees. The newly built pieces of comb in each are removed, the section inspected and replaced if still well stocked, and the boxes are at once used again. It has been my experience that it does not pay to try to get two or more queens mated with the same lot of bees. It can be done, but it does not pay. Every queen is mated from a newly stocked nucleus.

Some of my readers will think at once that my method is expensive. But consider. A colony is robbed of all young brood and when the cells are complete is robbed of most of its bees. It is a ruined colony, as it stands. But the very same day or the next another colony must be robbed of all its brood. This brood must be disposed of. It is at once given to the colony which has been robbed for the nuclei. A fine young queen is given at the same time. In four weeks that colony is ready to rear another batch of cells in the same manner.

We all have our ways of doing things. I have found it easier to run fifty colonies in the manner I have described than to run two or three cell-building colonies through the season and use a different type of nucleus. This yard is not run for honey, being reserved for the queen business. Yet in good seasons I get considerable honey from it. In one case I had a colony store and seal 72 sections while they were completing 110 cells. It was a powerful colony, and I may never repeat that stunt.

The next article will deal with the care of young laying queens and mailing them.

Norwichtown, Conn.

SELLING STATE'S HONEY CROP—PLUS

By Benjamin W. Douglass

How State Apiary Inspectors are Helping Beekeepers in Bettering Honey Market Conditions

Ten years ago the commercial honey crop of Indiana was produced by a little group of expert beekeepers who happened to be especially well located in regard to honey-producing plants. These men, fearing a disastrous spread of bee diseases, had been responsible for the enactment of Indiana's bee inspection law a few years before.

As the law became operative and the effects of it began to be felt, a new problem arose. This problem was, how to dispose of the increasing honey crops.

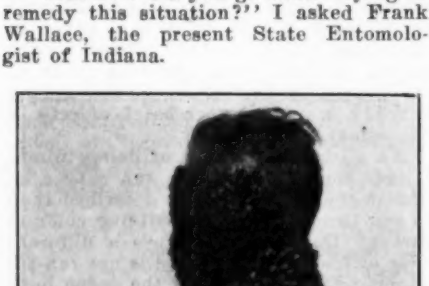
The working of the law accomplished two things. In the first place, it eliminated bee diseases as an important factor in the industry. In the second place it served as a means of educating thousands of small beekeepers who had kept bees in a slip-shod fashion for many years, but who had seldom harvested enough honey to make an impression on the market.

From the very start, the inspectors found many colonies of bees kept in soapbox hives, in sections of hollow logs, in nail-kegs, old churns, and all sorts of receptacles. Bees so kept seldom produce much more honey than they can use. Also, such hives are not inspectable and in every case the owners were ordered to transfer their bees to modern, movable-frame hives. Many of them resented such orders, believing that the state was merely boosting the business of the hive manufacturers. The results of a single season were usually enough to convince the most skeptical old-timer, however, and gradually the box hive and the nail keg became rarities in Indiana.

At the same time another factor was at work to increase the honey crop of the state. This was the general spread of sweet clover. Years ago, when the plant was first introduced, some of the more ardent beekeepers are said to have practiced a form of "night-riding." Taking a supply of sweet clover seed, they are supposed to have ridden about the country roads after dark scattering the new plant over a large area. It became one of our most common roadside plants and for a time was condemned as a weed. After fighting it for a number of years, some of the experiment stations began to boost it as a farm crop and today there are many sections where it is grown as an important forage plant. This increasing spread of sweet clover has

added materially to the honey crop of Indiana. With these agencies working to increase a crop that had previously been insignificant, the selling problem became important.

"Just how did you go about trying to remedy this situation?" I asked Frank Wallace, the present State Entomologist of Indiana.



C. O. Yost, apiary inspector of Indiana, finds time to give public demonstrations with live bees in order to stimulate the sale of Indiana honey. This is one of the many duties of an apiary inspector.

"In the first place," he said, "the average beekeeper—or the average farmer—is not a salesman. After he grows his crop, regardless of what kind of a crop it is, he dumps it on the market and takes what he is offered."

A New Job for Apiary Inspectors

"Our problem was to teach the beekeepers something about salesmanship and we put the thing squarely up to our inspection force. They had done good work in educating the beekeepers to get rid of disease and to produce more honey, and I thought they ought to finish the job by teaching them how to sell their stuff. You know, our experiment stations have been ding-donging at the farmer for years to make two blades of grass grow where one grew before. Then after the farmer gets busy and grows that extra blade he has a hard time finding some one to buy it. Well, we rather felt that the job was up to us to help pull the beekeeper out of the hole."

I asked Mr. Wallace to outline a few of the things that his inspectors talk to the beekeepers about in order to improve their selling ability. The following points cover in a general way the plan that is being used today:

The beekeeper is urged to hold his crop and to sell it at retail himself. Many of them did not realize that this could be done. They are taught that honey should be kept in a warm, dry place. Comb honey so kept will not readily granulate. Extracted honey, they are taught, can be easily made liquid by the application of mild heat, and after it is liquefied it can be kept so by packing it in tight containers and storing them in a warm place.

Extracted honey should be packed in clean, new containers—either tin pails or glass jars. It has been found that new customers almost invariably make their first purchases in glass. Later, after they learn the quality of the honey, they are not shy about buying the tin containers. Where glass jars are used they should always be of white glass. Green glass jars give the honey an off-color cast and make it appear less attractive.

Comb Honey as a Bait to Sell Extracted

Where customers are prejudiced against the use of extracted honey it has been found useful to drop a chunk of comb honey into each package. This, as bait, often results in converting a customer to the use of the fluid honey and in many cases men have built up such a staple trade that they now do not need to resort to the comb-honey dodge.

Beekeepers are urged to use an individual label on their jars or cans of honey. This label should contain the name and address of the beekeeper and also should contain his personal guarantee as to the purity of the honey.

Beekeepers are taught to use larger containers than those found on the average retail markets. The three and five pound jars have proved the most desirable. One man was selling honey in jars containing one, three, and five pounds. Most of his new customers bought the small jar. One day he ran out of the small size and, although he had over a hundred customers after that, he lost but one sale.

A standard price is insisted upon and the beekeepers are urged to stick to it. One beekeeper asked, "What shall I do if my neighbor cuts the price?" "Let him cut," he was told. "Then sell your honey on a quality basis. Your neighbor will very soon find that he is losing money." Fair and reasonable prices are insisted upon—prices that are lower than the customer would have to pay if he went to a large town or city and bought in the retail market.

At all times the producers are urged to talk to their customers about quality. The bulk of the Indiana honey is obtain-

ed from clovers of various sorts—white clover chiefly. This, most experts agree, is the standard of quality in honey. All of this is explained to the customers. Even the honey-producers in the swamp sections, where dark honey is the rule, emphasize the purity, the freshness, and the cleanliness of their wares. This is simply elementary salesmanship.

Where a beekeeper runs out of his home product he is urged to buy only honey of a grade and quality similar to that which he produces. The dark-honey producers, therefore, buy only dark honey. The producers of straight clover honey buy only straight clover honey. In this way the customers, having developed a taste for the local product, are not disappointed when they are given an imported substitute. In fact, they seldom ever know that the imported honey has not been produced in their own neighborhood.

Selling Honey at Roadside

Roadside signs are suggested, and in this connection the inspectors of the department have made quite an extensive study. The beekeeper who wishes to attract the attention of the tourist trade is urged to erect an attractive sign and to provide a parking space where automobiles can turn in to be waited upon. On many paved roads it is against the law to park on the roadside. This is overcome by building driveways off the road and then leading back to the road. It is found that most buyers stop on their way back to town—not on their way out into the country. For this reason signs on the right hand side of the road leading into town have been found the most successful. One beekeeper erected a novel sign on which was painted a picture of an old-fashioned straw hive. Just back of the sign he placed a colony of bees so that the entrance coincided with the painted entrance on the billboard. Tourists would stop and look at the sign only to find that live bees were apparently using the painted hive. This proved to be a drawing card for this particular apiary, and it is said that the owner did a large businesss.

Finally, the beekeepers are urged to make theirs a year-round business. Instead of making an effort to sell their crop only at harvest time, they are encouraged to keep a supply of honey constantly on hand. In this way customers learn that they can get the product of the bees any time they desire it, and a larger volume of business results.

Qualifications of Bee Inspectors

I said to Mr. Wallace that he seemed to require a good deal of his bee inspectors, since they had to be not only experts in bee diseases but also in merchandising. "Just what qualifications do you insist upon, in appointing men for this work?" I asked.

"In the first place," he answered, "the man must be honest. Then he must be a successful beekeeper. By that I mean he must actually have made money at the business. Some of our men still keep bees on their own account and we allow them to do so. They give us their spare time. Candidates must actually have had both bee diseases in their own yards and have been successful in cleaning them

Even the ladies are willing to wear a headgear like this at public demonstrations to help advertise honey.

up. I want my men to realize just how a man feels when his bees are inspected and disease is found. Then we want the men to be able to meet people—they must be friendly and tactful. They must be patient but determined and absolutely above political 'influence' when it comes to handling a case in the field. Finally, they must have a constitution that will stand fifteen hours' work every day—because that is what they get in the busy season."

"Where do you get these super-men?" I asked.

"Well," he laughed, "we don't get such an awful lot of them. Those we get we try to keep. We don't always have much luck in that respect."

Selling More Than They Produce

"Finally, just what is the honey-selling situation in Indiana today?" I asked.

"Well," he answered, "our beekeep-

ers now sell their entire crop at home—plus 75 per cent. That means that they are producing only a little more than half what their market calls for. This in spite of the fact that they are producing more actual pounds of honey than they ever did. They have merely developed their local markets. The only limiting factor to the development of this local market is the beekeeper's ability to obtain honey of equal quality to that which he produces."

"You mean that these conditions prevail over the entire state?" I asked.

"Practically, yes," he replied. "There are, of course, some backward beekeepers who will never learn new methods. There are others unfortunately located who produce honey of poor quality. These men are probably still having trouble to sell their honey, but the great bulk of Indiana honey is sold right at home. The purchaser gets a lower and the seller a higher price than prevailed under the old order. In a small way, at least, that long desired millenium has arrived—the consumer really knows the producer by sight and name."

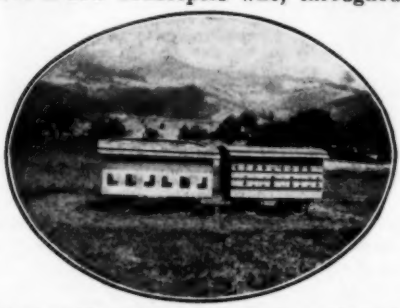
Trevlac, Ind.

MOVABLE APIARIES IN AUSTRIA

By Louis Alfonsus

Portable Apiaries or Bee-wagons Built Specially for Migratory Beekeeping in a Mountainous Country

As a general thing, the yield of nectar in my country, Austria, is not sufficient to warrant a large number of persons engaging in beekeeping as an exclusive business. Many districts are already overstocked. It often happens that too many beekeepers are found in one particular range of bee-flight for any of them to obtain the highest degree of success. Notwithstanding this, we have a few beekeepers who, throughout



House apiaries built on wagons specially for migratory beekeeping. These enable the beekeeper to take advantage of several honey flows during a single season by following the succession of bloom of the different honey plants.

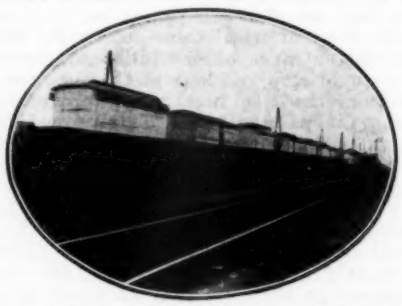
the entire summer, look for good locations, adopting what is called movable beekeeping, and arranging their apiaries accordingly. Today I am in position to present to the readers of Gleanings some views of apiaries prepared for moving in a manner easiest for the bees.

Apiaries Depleted During World War

The apiarist, Louis Hochegger, in Leibnitz, Steiermark, Austria, had, before the outbreak of the war, 500 colonies of bees, all of which could be contained in his movable bee-wagons which he himself constructed. At the beginning of the war he had to join the ranks; and when he returned, after an absence of four years, there remained out of the entire 500 only 23. He was thus obliged to make a new start, and now has increased the number of his colonies to 400.

Bee-Wagons Shipped by Rail from Winter Quarters

His place for wintering his bees is in Leibnitz, to which place all the trucks are drawn at the end of September, when there is nothing more for the bees to gather. In summer he distributes his colonies, putting them in various parts of the country, sending his trucks on by rail, then drawing them by team to the desired place. The bee-wagons are so arranged that they can be utilized as honey-houses. They have thick walls



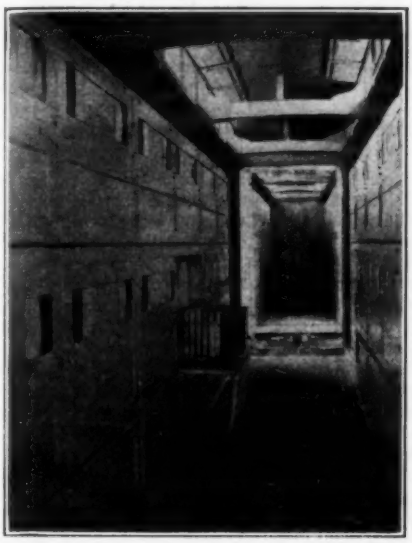
In the spring the bee wagons are loaded upon railroad cars to be transported from winter quarters to a remote center from which the wagons are drawn to the desired locations.

which may be detached, and are perfectly bee-proof. At first the mountainous regions are sought out for the bees, where plants may be found that yield a fine grade of honey. In late summer all

the trucks are drawn to the fields of buckwheat, which yields nectar from the middle of September till its close.

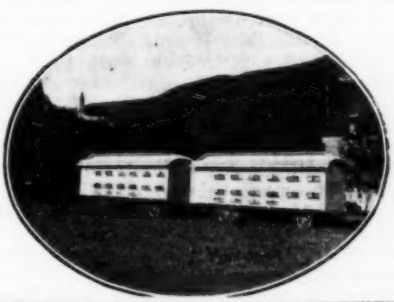
One or Two Bee-Wagons for Each Location

By this method of management Mr. Hochegger is in position to transport his



View of the central passageway looking through two bee wagons joined end to end. The hives are "built in" and arranged in two tiers. Note that the hives are of the side opening type used in Europe and that when the door of a hive is opened it is dropped down in such a manner that it forms a table to support the combs when they are pulled out.

bees to localities that are good sources of nectar. As a rule, he uses only one wagon—sometimes two. He obtains rich yields of honey, and is well informed in



Usually but one or two of the bee-wagons are put in a location. In this way the colonies can easily be distributed over a large territory.

apicultural matters. At the end of September the trucks are put into winter quarters.

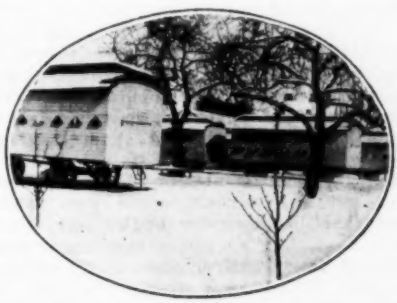
Bees that are provided with buckwheat honey receive no sugar syrup. Mr. Hochegger refrains entirely from feeding. Before carrying the bees to the field of buckwheat the best honey is extracted, and what buckwheat honey comes in after that is kept, till after the removal of the surplus, for winter.

The bees secure, however, a great variety of honey—one from the nadel tree, which goes into the brood-chamber and causes dysentery; but as the bees have

Transportation of honey. Apparently the small building between the bee-wagons is used as an extracting house.

quite a number of flights during winter or in early spring, they thus manage to winter well. As they will do well after these flights, it is unnecessary to protect them longer in the cellar.

The side walls of the wagon are covered warmly, and are provided with suit-



After the buckwheat honey flow closes the bee-wagons are again collected at the winter quarters and winter packing is put in place in the center passageway to protect the hives during cold weather.

able shelter, as the winter there is not so severe as here in middle and northwestern United States.

The carrying on of beekeeping in wagons saves much time and labor. Mr. Hochegger raises every year 250 queens for his own use. He raises none for sale. He is mainly interested in the production of honey.

Milwaukee, Wis.

MARKETING BUCKWHEAT HONEY

By Louis B. Blachly

Changing Conditions that Must be Met by New Selling Effort to Hold Present Outlet for this Honey

Mr. Blachly, who was himself at one time a beekeeper in Colorado, is Secretary of Herschel Jones Marketing Service, Inc., of New York, general sales agents for the Empire State Honey Marketing Co-operative Association.—Editor.

It ought to be self-evident that production and marketing of buckwheat honey alike hinge upon the fact that somebody wants to eat it. But, strange as it may seem, the desires of the consumer are frequently lost sight of in talking about the problem of honey marketing. In the case of buckwheat honey particularly, this is really important.

Buckwheat honey, outside of use in limited areas where it is produced, is used almost exclusively by Jewish people. They have brought this tradition with them from their European homes, and, like many another, it is a fine and healthful custom. But it is undergoing decided changes.

Until recently, a large proportion of Jewish housewives baked their own cake and bread. They bought buckwheat honey from their local grocer, who cut it out of the can or keg with a knife and sold it by the pound as he would so much lard. They preferred it in kegs because that looked more primitive and less like a manufactured product than the new sixty-pound tins. This housewife was a very discriminating purchaser. The honey had to look right and smell right or she would not buy it.

But a fundamental change has been rapidly taking place. Generally speaking, the housewife no longer bakes her bread and cake. It is made by a commercial baker. The baking trade is extremely competitive and it is a great temptation for the baker to substitute a cheaper honey like Porto Rican, which he can get for several cents per pound less than he pays for buckwheat. Not only that, but he can invert sugar and cut out honey entirely, and many are doing so.

The effects of this are obvious. I know several Jewish jobbers who at one time sold large quantities of buckwheat honey, but who now do not even handle it. On the other hand, one Jewish bakers' supply house which started handling buckwheat honey for the first time last year, sold nearly a carload the first season.

Another tendency affecting the consumer and ultimately the producer is the desire of this class of our population to use "American" foods. The great body of Americans use light-colored honey—it is the only kind that goes into commercial sale in glass in our cities. The younger generation particularly wants the foods they can buy in the ordinary delicatessen or chain store; and not one single chain store in our larger cities, to my knowledge, even handles buckwheat honey. Furthermore, there is now no longer the immigration that brought in the people with the buckwheat honey tradition.

Three trends are distinctly observable, therefore, in the consumption of buckwheat honey. First, distribution for baking purposes is going largely into the hands of commercial bakers, where substitution is easy and the inducement to do so great. Second, a larger and larger proportion of the buckwheat trade is turning to the use of light honey. Third, the chain store and similar shops which are in many sections displacing the old-time grocer, do not handle buckwheat honey.

Of course, one should not overestimate these difficulties. They are no less real for all that. Last year there was a short yield of buckwheat honey. There was considerable exported. Porto Rican honey was extremely scarce. In a year when the buckwheat-honey yield is large, with little export demand, and with a large production of Porto Rican, there would be another tale to tell.

How is the beekeeper to overcome these problems? Obviously, what he does will have to be carefully executed over years to overcome changing demand. It will have to do with the consumption and distribution as well as production.

A large part of the surplus buckwheat honey of the East is produced in limited sections and sold in New York City and Philadelphia, and to a particular class of people. That simplifies the problem immensely. The beekeepers in these areas, properly organized, could afford to carry on a small amount of advertising and education among this group of consumers that would largely sustain or increase the consumption of buckwheat. It would not be a scattered effort and would yield direct and immediate results.

The ignorance regarding buckwheat honey on the part of even large dealers is appalling. Several have expressed the opinion that it is made from buckwheat flour. Last year, by personal contact with practically every wholesaler, information as to the methods of production and standards of purity were given them

(Continued on page 611.)

FROM THE FIELD OF EXPERIENCE

PACKAGES INSTEAD OF WINTERING

A Plan that Does Not Involve Killing the Bees in the Fall

For many years there has been much talk about killing all bees in the fall and re-stocking with package bees in the spring, but there probably has not been much action along this line. I have often thought how fine it would be to do this with my own bees. It figures out well in the mind or on paper, but, like all beekeeping operations, there are many upsets in actual practice. No two colonies are alike, no two seasons are alike, and no two beekeepers are alike. On the whole, package bees have been a success with me. Sometimes things have happened, such as railroad trouble, or floods, which have prevented package bees from arriving at the proper time. Then what would I have done if I had killed all my bees the previous fall and depended entirely on package bees which did not arrive. These things do not happen often, but once would be enough to put many of us out of business. It's a good system, but for the present I consider it too risky for the average commercial producer.

For several seasons I have been experimenting with a plan which I hope to put into full operation, as it seems to have many of the advantages of wintering bees in the North as well as killing them in the fall and replacing with packages in the spring. It is really a combination of the two. To illustrate, we will consider an apiary of 100 colonies and start with the close of the main honey flow. The colonies are divided into two groups of 50 each, one group containing those with the best queens, and the other the inferior queens. Each colony with a poor queen is united with a colony with a choice queen by the newspaper method. The exact time of uniting is determined by the season and location. The uniting eliminates half the cost of packing cases and reduces the cost of packing because it takes but a few minutes, and the double colonies can be packed just as fast as an ordinary two-story hive. If the work is done early enough so the bees can properly adjust the winter stores, everything will be in ideal condition for wintering—a large number of young bees from two queens, an abundance of stores, and a choice queen.

Fifty packages of bees in the spring bring the apiary up to the full strength of 100. If for any reason package bees are delayed, the extra strong old colonies will be in condition to give help in the way of bees, brood, and possibly some honey. It is not unusual for the extra strong, wintered-over colonies to have two hive bodies of brood at the time dandelions are in bloom and to gather a surplus of honey if the weather is favorable. In case the packages fail to arrive at all, increase can be made during dandelion and fruit bloom from the old colonies. I have often divided two-story colonies at the time of fruit bloom by setting one hive body with half the brood and bees on a new hive stand and introducing a young queen to the queenless half. The two divisions will be strong colonies when the clover flow starts several weeks later. This can be done only with the very best colonies.

If no queens have been replaced by the beekeeper or superseded by the bees, we will come to the end of the honey flow with 50 queens that have had one year's service, and 50 with two years' service. In uniting for the winter the young queens are saved. As some of the older queens will probably have been replaced, there will be some choice in selecting the 50 young queens. Since most authorities agree that queens are good for not more than two seasons, the requeening problem is taken care of without any special work.

The advantages of this system are: The cost of packing cases is cut in half; labor of packing bees is reduced; less honey is required for wintering; there is less work to unpack bees in spring; old colonies are above average in spring; the package bees provide for new queens every second year; and it is unnecessary to depend entirely on package bees which may fail to arrive.

Part of the money saved will be used in buying package bees, but I am sure that in some locations beekeepers will find the system a profitable one if carefully worked out to suit their particular needs.

Ellsworth A. Meineke.

Chicago, Ill.

BEEKEEPING IN ENGLAND

As Seen by a Wisconsin Beekeeper who is Traveling in Europe

For a thousand years and more most of the bees in England have been kept by cottagers who have had a few skeps in the garden, the object being to produce

honey for home consumption and for the manufacture of a little mead, a drink much resembling cider.

In the past several years brood diseases and the Isle of Wight disease have killed off the bees over large districts. The real beekeepers, men who look to the bees for an income, have been restocking with bees from Holland and also with bees from southern France and Spain. These men seem to have lost fear of the Isle of Wight disease; they say it has lost its virulence for those who keep their colonies strong.

While all the counties of England are green and beautiful, and look very much alike to a visitor, some localities will not produce honey in paying quantities. Then in those favored spots, where crops as good as our American locations furnish can be made under favorable weather conditions, they never know when a heavy flow may be stopped by a sudden spell of cold wet weather.

English and American hives in same apiary. Some English beekeepers now use and prefer the plain simple hives as used in this country.

Those localities where heavy honey flows occur are on limestone soil, and sainfoin, crimson clover, and white clover are main sources of nectar. Linden trees are numerous, large and thrifty, but do not seem to be valued as honey-producers. They bloom at a time when bad weather is very liable to occur.

The straw skep is still made and is not uncommon. For wintering and for producing swarms it is O. K. I believe that small hives have done more to make English beekeeping unprofitable in the past than has the straw hive. Some of the beekeepers situated in good producing territory have adopted our system, and use large American hives. They do not like direct importations of Italian blood, but prefer the Americanized breed, and therefore send to America for queens.

There are some surprises to be met with by one who travels about. One splendid family in Oxford County, with whom I had a delightful visit, has at times up to 1000 colonies scattered about the country in small apiaries, using every conceivable make, size, and shape of hive. The only thing to recommend Mr. Bartlett's system is the fact that he has lived from the proceeds of his bees for years and supported a growing family.

He knows every crook and turn in beekeeping, and could get surplus honey from a colony in an old dishpan or a discarded cheese-box. Wintering is easy in his sheltered locations, and he gets a lot of honey, both comb and extracted, by keeping a large number of colonies. Any diseased colonies are immediately placed in a hospital yard as soon as discovered, and thus he keeps his yards reasonably healthy. All his apiaries have empty hives with a few combs or sheets of foundation, for the self-hiving of swarms, and he claims that a very large per cent of all swarms hive themselves. Finally, he and all English beekeepers have this advantage: the prices they receive for honey are just double what we receive in the States.

I am forcibly reminded that climate, location, and individual management create many variations and many departures from what we in the States consider orthodox methods. It is all of great interest to the American tourist, but there are so many other things to attract that he can not give half his time to beekeeping—at least I have not been able to do so. I have visited many old churches and cathedrals, and spent much time examining historical buildings, ruins, and relics. I have had one week in Paris and northern France, and have yet to visit Scotland. Harry Lathrop.

Cambridge, England.

THE STRAIGHT UNCAPPING-KNIFE

Conditions Under Which the Knife Having a Long Blade and Straight Handle is Advantageous

Back in the 80's, when I first uncapped honey, an old-fashioned bread-knife was the tool used. But because some of the combs were in places capped below the wood of the frame, the bread-knife was discarded for a Novice honey-knife, and that in turn discarded for a Bingham knife. And now Morley Pettit, in January Gleanings, has discovered that the cappings on honey can be cut with an old-fashioned bread or butcher knife. Next thing we know some young fellow will discover that bees will build comb, even though not furnished with foundation.

But do not consider what I have just written as a knock at the bread-knife. It is everything that Morley Pettit claims for it—that is, if you have the kind of

combs of honey that Morley Pettit says he has. But it was because not all combs were such as could be successfully uncapped with the old-fashioned bread-knife ,that A. I. Root designed the Novice knife and T. F. Bingham the knife that bears his name. So perhaps it may be that the reason the beekeepers of the land do not accept Pettit's knife is because the conditions which brought about the invention of a knife with an offset handle still exist in most parts of the country.

When conditions during a honey flow are such that combs can be spaced seven or eight to a ten-frame super, then any kind of a knife will do for uncapping. But with a slow, dribbling honey flow and cool weather, the problem of uncapping is quite different. The bread-knife then is an abomination, and the knife with an offset handle and a beveled edge has to be used. At least, that is my opinion, and I consider Morley Pettit wrong when he intimates that the majority of beekeepers have scales over their eyes. Men who were using a straight flat knife thirty or forty years ago, and then changed to the Bingham, had cause for making the change. Leslie Burr.

Willits, Calif.

NOTES FROM FOREIGN JOURNALS

Some of the Outstanding Beekeeping News from Beyond the Sea

A statement appeared in the Scottish Beekeeper for May that the winter losses of colonies in Scotland amounts to from 15 to 25 per cent.

According to a notice in the Bee World for April, the Ministry of Agriculture and Fisheries has arranged to inspect, on application, apiaries in which bees are reared for sale. Such inspections are to include only brood diseases. Contrary to the usual rule in the United States, however, they are not to be made gratis, but for a fee of approximately $10.00 per day, with a minimum charge of one-half this amount.

Of particular interest to queen-breeders is an article in the May issue of the Bayerische Bienen-Zeitung, dealing with work both by Doctor Zander and one of his students, Doctor Becker, on the fundamental differences found in queens reared from worker larvae of various ages. In general, their data bear out the idea commonly held so long by queen-breeders that worker larvae used for queen-rearing should not be more than three days of age, and the younger than this the better. Thus each investigator found that queens could be developed only from worker larvae hatched for not more than three and one-half to four days. After this time physical modifications typical of workers are too far advanced, whereas the development of the reproductive organs is so arrested that worker larvae are no longer capable of becoming queens. Queens reared from worker larvae three days old, and also from larvae three and one-half days old, averaged on emergence 81.77 per cent as heavy as queens from larvae one day old. The latter averaged 2186 to the pound. Queens from larvae two days old were 99.08 per cent, and from larvae two and one-half days old 92.54 per cent as heavy as those from larvae one day old. On the basis of actual weighings, Doctor Zander is of the opinion, furthermore, that supersedure queens are fully equal to or even better than queens reared under the swarming impulse.

Honeybees possessing both male and female characteristics have not often been described in beekeeping journals. They were known, nevertheless, at least as early as 1801, but the specimens most widely heralded are those found by Eugster in Switzerland in 1859. During the past year Switzerland has again furnished more of these bees. They are well described and illustrated in the June number of the Schweizerische Bienen-Zeitung by the editor, Mr. Fr. Leuenberger. Of twelve specimens, no two were alike; some possessed mostly drone structures on one side of the head, thorax, and abdomen, and mostly worker structures on the opposite side of the body, while in some the dividing line was between the fore and rear parts of the body. In still others neither drone nor worker characteristics seemed predominant on either side. This unusual intermingling of male and female characteristics applied not only to external structures but to the internal organs as well. The external worker parts were found to be darker in color than the male parts.

Since these bees are not hybrids, Mr. Leuenberger ascribes this to the fact that the drone requires a longer time for developing from egg to adult than does the worker. Such bees are highly interesting from the embryological standpoint because, while drones arise only from unfertilized eggs and workers only from fertilized eggs, these bees possess both drone and worker characteristics. The conclusions set forth a few years ago by the well-known embryologist, Boveri, as to the cause of such occurrences have not yet been disproven. According to his views, they arise from fertilized eggs, but for some reason the action of the spermatozoon is inhibited for a brief time after entering the egg, and before it becomes active again nu-

clear division has already begun in the egg as in ordinary parthenogenesis, thus accounting for the male characteristics. The spermatozoon then unites with one of these divisions, and from this union the female characteristics arise.

In Switzerland the national beekeeping associations operate stations for mating queen-bees. As a result of the efforts of these associations in promoting interest among beekeepers to rear their own queens it is reported that the number of commercial queen-breeders is declining. The official in charge of the queen-breeding work for the association of German-speaking beekeepers in Switzerland recently published in the Schweizerische Bienen-Zeitung the prices for queens and bees as set officially by his organization. Purely mated queens from official mating stations are listed at about $3.00. A piece of comb two inches square, containing eggs, is priced at nearly $1.00, the purchaser to furnish a container and certain specified packing material.

In Poland a railroad car containing an apicultural exhibit has been used in conducting extension work in various parts of the country. W. J. Nolan.

Washington, D. C.

FILLING TWO CANS AT A TIME

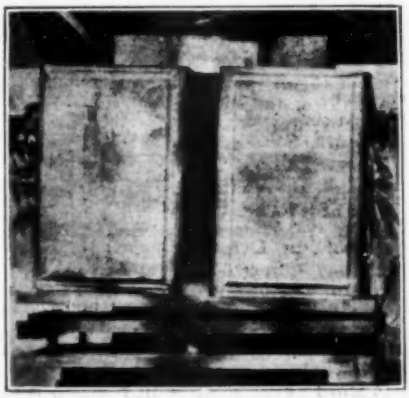
Switches Stream of Honey from Can to Can, Rings Bell when Cans are Full

Several years ago I built a device to fill 60-pound cans, two at a time. The idea was to lessen the amount of watching so that I could extract and fill cans at the same time. Later on I applied the same principle to fill and weigh 5 and 10 pound pails. For this purpose I secured a baker's balance, such as he weighs bread dough on.

Last winter I rebuilt, or, rather, added to my balance for filling two 60-pound cans, so that at the right time an electric bell will ring as a signal that the operator's attention is wanted. As this device was not built with a view to accuracy, I don't know whether I can depend on putting just the right amount in each can or not, as my idea is to have the alarm sound before either can is full, then go and finish them up. As I use 60-pound cans mainly for storage, and transfer the honey into smaller packages later, I don't care particularly for that feature. But I am sure that the principle can be developed to do the work accurately, as the device is very simple.

For the original balance I used two 11" by 22" boards cleated at each end on the under side with ⅜" x 1½" cleats. At the center of each board, about 7½ inches apart, I screwed two No. 10 screw-eyes so that when the two boards are put together the screw-eyes of one will fit nicely inside the screw-eyes of the other. When thus assembled I put a $\frac{5}{16}$" x 8" machine bolt through the screw-eyes. As a guide so that the cans may be placed in correct position each time, I put a 1" x 1½" strip lengthwise across one side of the upper board, and over the center at right angle to the others, I fasten another 1" x 1½" strip. On this, two 60-pound cans are placed snug up against the guage if square cans, the openings being in adjacent corners. A double funnel should be provided with a center division and opening up into each can.

Thus provided, the balance should be so set under the faucet that the center division of funnel is directly under the faucet. Start the flow running with one of the cans down. This throws the division of the funnel to one side and the flow enters the can that is up until the weight changes the balance and also the position of the center of the funnel, when the flow enters the other can, thus automatically working back and forth, each time putting a few pounds in each can until they are nearly filled, when the attendant should be on the job to complete the work.



Device for filling two cans at a time. When a few pounds have been filled into one can, its extra weight causes it to go down, thus raising the lighter can. This movement moves the double funnel so that the stream of honey then enters the other can. When the cans are full the springs are compressed far enough to make an electric contact, which rings a bell.

Here is where the new attachment comes in to connect this with an electric bell so that, at the right time, the weight will ring the bell. This is accomplished by supporting the balance above a third board on four coiled springs with bolts as guides, as shown in the illustration.

When the desired weight is in the cans the springs at one end are compressed until an electric contact is made, which rings the bell. This electric contact point is adjustable, so that by turning a set-screw the proper weight will be put into the cans before the bell rings.

Prophetstown, Ill. Henry Stewart.

HONEY IN PRESERVES AND JELLY

Blending the Flavor of Honey with that of Fall Fruits in Preserving and Jelly Making

Honey may be used in the making of jams, preserves, and jellies, of which every housewife likes to have a goodly supply. With a good grade of honey, either liquid or granulated, fruit products of good color and consistency may be obtained. The flavor of the honey combines somewhat better with some fruits than with others. It is very pleasing with quince and is good with lemons and oranges. The flavor of honey also combines well with that of most spices. Hence, the most pleasing flavors are usually obtained when the honey is used in fruit butters or jams to which spices are added, or in conserves which consist of a combination of two or more fruits, one of which is often either lemon or orange.

Following are a few suggestions for the use of honey with some of the late summer fruits. It is desirable that a mild honey be used.

Ginger Pears—Use hard or underripe pears. Wash, pare, core, and cut into very thin slices. Use the following proportions: 2 pounds thinly sliced pears, 2 pounds honey, 1 lemon (juice and shredded rind), ¼ cup water, ½ ounce ginger root cut into small pieces. Simmer these materials together until as thick as a marmalade. Seal in hot sterilized jars.

Damson Plum Conserve—Wash and stone ripe damson plums. Chop into small pieces. Use the following proportions: 1 quart chopped plums, 6 sour oranges cut into very thin strips, 1 cup chopped raisins, 5 cups honey. Cook together until thick; can in hot sterilized jars.

Peach Jam—Use 2 pounds pared and stoned peaches, 1 pound honey, 1 tablespoon lemon juice, ½ cup water or peach juice, 1 teaspoon whole cloves, 2 teaspoons broken cinnamon bark, 1 inch ginger root. Tie the spices in a small cheesecloth bag; cook all the materials together until the mixture is thick; remove the bag of spices and seal the jam while hot in sterilized jars.

Grape Conserve—Remove the grapes from the stem, wash and measure. For each quart use 1 orange and 1 cup raisins. Pulp the grapes; add a small amount of water to the pulp and cook until soft. Put through a sieve or colander to remove the seeds. To the pulp add the grape skins, the orange cut into small pieces, and the chopped raisins. Measure the combined ingredients. For each cup of the fruit mixture add ¾ cup honey. Cook until thick. Can while hot in sterilized jars.

Quince Honey—Wash and pare 5 or 6 quinces; drop into cold water; cover the parings with boiling water and cook for about 30 minutes; drain. Grate the quinces, adding the pulp as grated to the liquid drained from the parings. When all are grated weigh the pulp and liquid; add an equal weight of honey. Cook rapidly, stirring until quite thick.

Quince and Apple Conserve—Wash carefully and pare equal weights of tart apples and quinces. To the parings add water to cover and cook about 30 minutes. Drain off the liquid. To this liquid add the quinces and apples which have been cored and cut into small pieces. Add water if there is not sufficient liquid for cooking the fruit; cook until soft and mix thoroughly. Weigh; to each pound of the fruit add one cup of honey and one cup of sugar. Cook until thick.

Quince Jelly—Extract the juice in the usual way. To each cup of juice use ¾ cup honey. Boil rapidly to the jelly test. Pour at once into hot sterilized glasses. When cool, cover with melted paraffin.

Ruth Jordan,
Research Assistant in Home Economics,
Lafayette, Ind. Purdue University.

A BEEKEEPING LIBRARY

Advantages of Great Collections of Beekeeping Literature in College Libraries

It is a frequent source of amusement among those widely read in beekeeping that, after reading many current beekeeping articles, one may go to Langstroth, Quinby, or some other older writer and find the newly discovered method or plan discussed in detail. This suggests that many writers are unfamiliar with the work of older leaders in the science and art of beekeeping, but there is justification for repetition in the fact that this older literature is largely inaccessible both to the writers and their readers. This indicates the desirability for accessible store houses of our knowledge of bees and beekeeping. It is unnecessary to argue for good beekeeping libraries, and there can not be too many of these scattered about the country; nor will it be questioned that educational institutions are good places in which to fos-

ter these. Cornell University is enlarging its beekeeping library, and in addition to the usual features of such a collection, there are planned certain other things which already make this library unique. It is these features especially which will here be discussed.

It is planned to receive regularly every bee journal in the world, most of these coming through the generosity of Gleanings in Bee Culture. All current books are being obtained, from this continent and from the old world, and back files of foreign bee journals are being purchased. Seven files of leading foreign bee journals have recently been completed, and the publishers of another are sending their journal as a donation. Catalogs of second-hand dealers in foreign books are being watched for offerings of old works, and several foreign co-operators are rendering valuable assistance. Government and association reports are being obtained from each state where such material is available, and it is expected that these will soon be complete to date. Exchanges are being arranged with other beekeeping libraries, thus helping all libraries concerned and greatly increasing the available material.

Important parts of such a library are the older American books and files of American beekeeping journals, and the library is making an important feature of these. Instead of waiting to purchase journal files which only rarely get into the market, a special search is being made for sets and for old books which have been preserved by beekeepers. A book which has been preserved by the author and which has been part of his personal library is far more interesting than the same book bought on the market. While this added interest is largely a matter of sentiment, it is by no means necessary to defend it, but we may take it for granted that others also treasure things of this sort. If they do not, they are to be pitied. It also means much to have a book or a file of some journal which has been the property of some beekeeper whose name is well known to all other beekeepers.

With such things in mind, the present library is asking these beekeepers or their heirs to donate collections of books and files of journals. All such donations are marked with the name of the donor, and in addition wherever the book was formerly owned by some well known beekeeper, this fact is also recorded on the book plate. So far, some rather unusual donations have been received. The beekeeping library of Moses Quinby has been donated, together with the books since collected by his son-in-law, Lyman C. Root. This collection alone makes this library unique. Other books and journals have been donated which were the property of other well known beekeepers, now deceased, among them Julius Hoffman, P. H. Elwood, J. B. Mason, of Maine, T. W. Livingston, of Georgia, and Miles Morton. Men still prominent in beekeeping have donated books and journals which they have long treasured and which are made more valuable because of this fact. Such names as S. D. House, W. F. Marks, W. D. Wright, George L. Ferris, or J. W. Pierson, add interest to any book when the book plate records them as donors, and there are many more well-known beekeepers who have already thus made donations. Mr. Wilder has donated a complete set of the Dixie Beekeeper. All told, such donations actually received to date number about 400 volumes, and these constitute one of the most interesting collections of books which can be imagined.

Obviously those who are now working for this library can not always continue this work, this being one of the penalties of human existence. In order that this library may go right on, regardless of the personal element, an endowment fund is necessary. Instead of asking for direct contributions, it has seemed much better to ask for a more personal kind of help, something much more interesting and real than a few dollars. Interested beekeepers are asked each to set aside one colony of bees, these to be cared for by their owner. The bees are to be encouraged to produce as much honey as possible, and at the close of the season the crop is to be sold and the proceeds sent to the university as part of the endowment fund. This co-operation may continue just as long as the beekeeper wishes, and when his total contribution shall have reached the sum of $50, it is arranged that thereafter each year there shall be purchased a book from the income of the endowment fund which will be inscribed with his name as donor. It is easy to imagine the long row of such books which in the many years to come shall each bear his name.

This library is not sectional and not even national in character. Contributions have already been received from beekeepers of other countries and from all parts of the United States. It is established for the advancement of beekeeping without geographical limitations and is a project in which all beekeepers everywhere may take pride and interest. For lack of space no more details can be given here, but to any person sufficiently interested to write, I shall be glad to mail a more complete statement.

Ithaca, N. Y. E. F. Phillips.

SIFTINGS

by J. E. Crane

Ralph W. Barnes tells, on page 520, how he has been able to avoid some of the disagreeable effects of shaking Hutzelman's solution when combs are removed from the bath. Good! And so one difficulty after another is being overcome, and we may all rejoice as we learn one from another.

* * *

"The strength of the colonies next spring will depend largely upon their prosperity during the next two months," says the Editor on page 502 of August Gleanings, and he is right. Even a small colony of bees with a young queen, together with plenty of honey and pollen August first is a good clean investment, while a large colony, with little honey in the hive or coming in, is a very uncertain proposition.

* * *

Allen Latham gives us something to think about in his article commencing on page 507. He is not afraid to prick some of the theories that hang over the queen-rearing business. We learn much from so careful and observing a breeder as Mr. Latham is. I hope his articles on queen-rearing may be published in pamphlet or book form. It would, I believe, add much to our present somewhat extensive literature on queen-rearing.

* * *

Commend me to Mrs. Emily Hafford, for she evidently reads her Bible to some purpose and is not afraid to "speak in meeting," even if it does contradict so great an authority as Baldensperger. I believe she is quite right in her conclusion that bees were known in Palestine long before the time of Solomon, if we may take the plain reading of the Bible for what it says, Mr. Baldensperger to the contrary notwithstanding. See page 461, July Gleanings in Bee Culture.

* * *

Mr. Baldensperger's article in August Gleanings is well worth the space it occupies. His statement that the yellow bees of the Sahara fly a long distance for honey is very interesting, and I am wondering if that is not a characteristic of all the yellow bees. My first experience with Italian bees was with one pure colony, one hybrid, and two black colonies. The season was very poor, and while the black colonies stored very little the Italian colony stored an abundance for winter. A few seasons later, when white clover was abundant, black bees seemed to do as well as Italians. I found in poor seasons that Italian bees did the best, while in a good season there was no difference. I could only account for it by the stronger flight of the yellow bees, giving a longer range in a poor season.

* * *

Since I have been less active in the work of the apiary I have been watching to see where improvements might be made or mistakes corrected, and so far I believe we have made no greater mistake than in leaving insufficient stores for winter. These need not necessarily be left in the hive during winter, but should be on the hive when brood-rearing starts in April. If we had even half as many food-chambers as we have colonies to give our lightest colonies, it would add greatly to our next year's crop of honey.

* * *

Thomas Martin, of Wanstead, Ontario, tells on page 524 how he gives his bees a place to cluster when he removes his supers. Now this is all right if one has the time and lumber to provide such a nice place for them, but it doesn't seem to me that it will pay. Bees seem to be very happy on the outside of a hive in warm weather. If a heavy rain storm comes, the bees on the outside of the cluster arrange themselves like shingles on a roof and seem to turn water as well, so that the loss of bees is very small.

* * *

Sometimes we read articles that contain statements that are new and statements that are true, but it sometimes happens that "what is new is not true and what is true is not new," but J. G. Jessup on page 516 gives us what appears to be both new and true—the amount of air a good colony will force through a hive in warm weather. He says he has regarded the ventilation of the hive as "one of the most interesting accomplishments of the colony," and so it is. We often wonder at their mathematical skill in cell and comb building, but their skill at engineering seems quite as wonderful. How and when did they learn to force air currents through the hive to cool it and make it comfortable for their home?

How stupid of human beings, with all their reason, to give them a hive with one small entrance, as we sometimes see, and then wonder why the bees do not work in their supers! For every bee that fans at the entrance there are many inside the hive at work forcing the air in and through every nook and corner of the hive.

FROM NORTH, EAST, WEST AND SOUTH

In Sontheru California— Considerable of the orange honey has been sold, but there is quite a bit still in the hands of the producer. Beekeepers seem to be holding firm for a good price.

The country is certainly dry. All kinds of shrubs show the effects of the last three years of light rainfall. It is the common saying that we must have a good heavy rainfall next winter to get things back to normal again. This applies to practically all lines of agriculture and horticulture. Of course, the alfalfa fields and orange groves are kept going by irrigation, but even their supply is dependent on the winter rains. The sources of water supply in many cases are getting low, and each year finds more effort being put forth to deepen the wells or otherwise add to the water supply.

This item is not given as criticism, but just to compare the ideas of two beekeepers on the same subject. A friend who has moved to the star thistle for several years said, "When the temperature gets to 100° and 110°, that is the time the bees just pour in the honey from the thistle." On page 541, August Gleanings, Mr. Morrison says that 85° to 90° is just warm enough, etc. Have the bees ready and you will get your share and that is all we can ask for.

San Diego County reports yields varying in different localities from barely enough stores to carry them through to another season, to fifty and even as high as two hundred pounds of surplus honey per colony. Just why there is this great difference, it is hard to conjecture. However, some beekeepers gave up the idea of making a crop and devoted their efforts to other lines, thereby losing the chances of getting any small surplus that it might have been possible to make.

One reason why we often refer to counties is that many of our counties are larger than some of the eastern states and have more varying climatic conditions.

The writer, with his family, spent three days in the Santa Barbara country since our last letter. They certainly had a shake-up there. That the loss of life was not greater is remarkable. Perhaps it was from the fact that, coming as it did in the early morning, very few people were in the offices and store buildings. While the damage to residence property was quite severe, there was no loss of life there. The falling of the heavy walls and floors of the large buildings is usually the cause of fatalities in events of that kind.

We visited the home apiary of M. H. Mendleson in the suburbs of Ventura, but were unfortunate in not finding Mr. Mendelson at home. Some colonies of bees that we lifted were very heavy. With beans in every direction, it looked encouraging for honey—at least to a fellow from this dry southland.

Corona, Calif. L. L. Andrews.

* * *

In Oregon— Again the attention of the beekeepers of Oregon is called to the State Fair Bee and Honey Exhibit. I shall be in charge of the honey exhibit again this fall, and will give my personal attention to see that all entries are properly received and entered, and at the close of the Fair returned to the senders, unless other instructions are given.

No material changes have been made this year in the list of premiums offered. A total of $234 is offered in premiums in the department. First and second premiums are offered for the following entries: Alfalfa comb honey, fireweed comb honey, clover comb honey, alfalfa extracted honey, clover extracted honey, fireweed extracted honey, beeswax, honey vinegar, single-comb nuclei, and queen-bees (three-banded Italian, golden Italian, Carniolan, Caucasian), food cooked with honey, honey plants, and the largest and most attractive display of the various products put on by one individual.

I recently returned from an extended trip into the southwestern counties of Oregon, including Douglas, Josephine, Jackson, Curry, and Coos counties. Although the primary object of the trip was to determine the distribution of the cherry maggot, I took the opportunity to look into the possibilities of beekeeping in that section, which is rapidly being opened up by the building of the Roosevelt Highway. That portion of the Roosevelt Highway extending from the town of Marshfield in Coos county south to the California line will be completed at the end of 1926. Much of the highway is already opened and that which is not opened is passable over the old road and fairly good detours with careful driving. Probably within five or six years the highway will be completed from Astoria, on the Columbia River, south to the Mexican border. Without doubt, this will be the most scenic highway in the world. Back from this high

way will be developed many market roads, which will penetrate the valleys of the Coast Range and will open up many excellent fireweed locations.

Dairying will, without doubt, be the leading line of agriculture. Mining is important. Fishing and hunting are unsurpassed. One farmer in Curry county reported that his only agricultural pests so far are the deer, which ate up his young orchard as fast as he could plant it.

Taken as a whole, the honey crop in this state is about average. In the Willamette Valley there is comparatively little from alsike clover, due to the fact that much of the clover was killed during the past winter; but there has been a very fine honey flow from Hungarian vetch, which continues to be on the increase. Although this honey is not quite of the quality that clover honey is, it seems to be a more dependable yielder, and it is of very good quality.

Corvallis, Oregon. H. A. Scullen.

* * *

In Utah—Conditions in Utah have been very favorable for bees so far this season, with one "pestiferous" drawback, namely, early and abnormal swarming. But little American foul brood has developed this season and the disease seems to be well in hand in most apiaries. The honey flow was quite steady during the month of July and promises to be good in August, the scale colony ranging from six to fifteen pounds per day for the entire month.

The abundant early moisture has kept the dry-land alfalfa growing so it has made a good second crop of hay and some will make even a third crop. Much of the second crop is being left for seed, which promises well for the August flow.

Nature has been very considerate with Utah weather thus far this season. We have had but few violent storms. Those portions of the state that were too dry early in the season have generally had sufficient rains later on, and where moisture was a little excessive dry weather has followed.

Last year's honey crop is well cleaned up and bee-men are too busy now to furnish much for local markets. There is a good demand for comb honey in car lots, but buyers for both comb and extracted honey are quite diplomatic in their inquiries about setting prices.

Many cars of bees were shipped into Utah and Idaho, and in addition there has been quite a business done in package bees. I think the season has been quite favorable for both enterprises.

Hyrum, Utah. M. A. Gill.

In Texas—The annual meeting of the Texas Beekeepers' Association was held in connection with the Farmers' Short Course of the A. & M. College at College Station. The meeting convened Tuesday, July 28, and adjourned Wednesday night, July 29. It is needless to mention to those who have attended beekeepers' meetings that time out was taken for sleep, but neither eating nor sleeping stopped the discussions about bees.

The meeting this year was the largest for five years. The bulk of those in attendance were not new beekeepers, but new as attendants of beekeepers' meetings. East Texas had almost as large a delegation as the southwest and their report of car-lot shipments of honey was a surprise.

R. R. Reppert, Extension Entomologist, gave a very interesting account of the work he is doing for the advancement of beekeeping in the state. President W. E. Joor, of Dallas, H. A. Victor, of Taylor, W. H. Laws, of Wharton, and C. S. Rude, Chief Inspector, College Station, presented papers on the foul brood situation in Texas. Queen-rearing talks were given by Albert M. Hunt, Goldthwaite; W. H. Laws, Wharton; E. B. Ault, San Antonio, and T. W. Burleson, Waxahachie. Package bees, their shipment and care on arrival, was the subject of papers by Arthur Stemberg, Lockhart; J. H. Yancey, Bay City, and W. O. Victor, Uvalde. E. G. LeStourgeon presented the work of the Beekeepers' Item.

Dr. F. L. Thomas gave a summary of the beekeeping work done under his division, reviewing briefly the work done by the inspection service and apiculture laboratory. The writer gave a paper on honey plants, and C. S. Rude on wax and wax production. W. E. Joor, Dallas, was re-elected president; L. R. Nolin, Corsicana, was made vice-president, and the writer secretary and treasurer. The president was empowered to appoint delegates to the meeting of the Louisiana and Alabama state associations, and to the American Honey Producers' League meeting at Cincinnati.

Three sections, little known to beekeepers, were represented by good-sized delegations. The Cap Rock country of West Texas, unknown as and unsuspected of being a bee country, sent a live bunch of beekeepers, each one firmly believing that his county is right in the honey-producing area. The lower Rio Grande Valley was represented by a number of well-known queen-breeders and package-bee shippers.

The honey crop of Texas was estimated by the association members as being 33 per cent of normal.

San Antonio, Texas. H. B. Parks.

In Wisconsin—Reports regarding crop conditions in Wisconsin indicate that the crop will be about normal or better for the state. In some sections the crop will be larger than normal, while in others it will be lower, but the general average will be good.

The Price Committee of the State Association met June 10 and recommended uniform prices as follows: Extracted honey, retail, direct to consumer, in lithographed pails, 5 pounds, $1.15; 10 pounds, $2.15; in plain pails, 5 pounds, $1.10; 10 pounds, $2.10; 60-pound can, $10.00. To the grocer, in lithographed pails, 5 pounds, 92c; 10 pounds, $1.72; in plain pails, 5 pounds, 88c; 10 pounds, $1.68; 60 pounds, $8.00; in glass containers, ½-pound size, per case of 24, $3.84; 1-pound size, per case of 24, $6.72; 3-pound size, per dozen, $8.16. Wholesale: 500 pounds or more No. 1 white extracted, 13½c per pound; 1000 pounds or more No. 1 white extracted, 12½c per pound, f. o. b. shipping point. Comb honey, to the consumer, per section, fancy, 35c; No. 1, 32c; No. 2, 25c. To the storekeeper, per case, fancy, $6.50; No. 1, $6.00; No. 2, $4.00. To the wholesaler, per case, fancy, $6.00; No. 1, $5.50; No. 2, $3.50.

Inquiries coming in from beekeepers indicate that most of the members of the State Association are depending upon the recommendations of this committee to set their prices Through continued effort of the association, uniform prices are becoming fairly well stabilized, although there are some beekeepers who continue to sell below the cost of production. It is very encouraging to note, however, that in number they are becoming fewer and fewer each successive year. There are, likewise, fewer and fewer taking off their honey until after the honey flow, which brings up the quality. There used to be a great deal of fermented honey put on the market, but such an occurrence is now quite rare in this state.

Keen interest is being shown in the Dr. Miller Memorial Library, and over 2000 pounds of honey have been pledged annually. This honey is to be sold and the funds used for securing books and journals.

The University Beekeeping Department has developed a printed score-card for beekeepers, which can be used by county agents and even the beekeepers themselves in scoring apiaries and the work of individual beekeepers. A uniform plan of beekeeping for the production of both comb honey and extracted honey is being put into operation in connection with this score-card.

Madison, Wis. H. F. Wilson.

In Michigan—This is August 7, and our white honey flow, which is usually entirely over ten days previous to this date, is still going strong. The bloom of milkweed plants and basswood are only at this late date drawing to a close and the clovers of all varieties are abundant. Sweet clover for the first time with me is showing up well, and strong colonies are storing from five to eight pounds daily. But with the large acreages of buckwheat now coming into full bloom we find it advisable to take all honey off the hives and re-super for the fall honey, which will be a rather lighter mixture and should be of better quality than is usual.

There have been rains generally and in some sections great downpours have caused considerable damage to crops. On the whole, Michigan will show up much better than it was thought possible at an earlier date, and those who were fortunate enough to have gotten through the very trying cold spring months will be rewarded with good averages.

This is one season when an addition of a few pounds of bees to weak colonies even as late as June 15 would have been very profitable. We often give up our efforts to build up colonies at much too early a date. I am more and more inclined to believe that we should never stop in this work, but carry it through till fall. We will then at least have fine colonies to winter, and in case of the later unexpected favorable conditions we will be ready with our cups turned up.

The area clean-up work is going strong; and, while there are some recurrences in apiaries treated, a prompt disposal of those colonies would seem the quicker and better way to get results. I am inclined to think that this plan should be followed with the occasional diseased colonies after a few years of treating generally in any given locality.

Michigan has added to its force of inspectors, and, being geographically situated as it is, should become clean if we all turn our hands to it and work hard. But it is no child's play and the more I see of American foul brood, the more positive I am that it will get us if we don't get right busy and get it.

The seventh annual summer meeting, just held here at East Jordan, was a great success. The weather was ideal and the attendance good. There was the greatest array of talent ever collected at a state meeting, and R. H. Kelty, the secretary, and his able official assistants certainly are to be congratulated by all. We had a wonderful banquet, followed by several hours of impromptu speeches, which was thoroughly enjoyed by all.

C. F. Muth, of Cincinnati, was the genial toastmaster at this feed, and "O, boy!" how he can talk honey and Cincinnati.

East Jordan. I. D. Bartlett.

* * *

In Idaho—The season of 1925 will be a big honey year throughout most of Idaho. During the past month I have met and talked with many of the large beekeepers of the state, and most of them have had their hands full to keep up with the honey flow. There are two reasons for this: First, the very heavy honey flow; second, the terrible drouth of 1924 left beekeeping in a bad way, and many producers did not make the preparations for a heavy honey flow that they should.

The coldest winter in history killed many colonies that were poorly packed or were weak. Temperatures ranged from 21° to 45° below zero. Spring came early, however, and maple was not frozen. On opening hives April 1 I was surprised to count six combs of brood in many of them. April was warm, and a heavy fruit bloom gave early stores. Some colonies made a few sections of apple-blossom honey. May was cold and required caution in handling the bees.

With warmer weather in June came one of the most amazing honey flows ever experienced in the Boise Valley and the Snake River irrigated lands. I have met several heavy producers who told me that extracting supers were filled in 48 hours. One extensive producer had extracted 56,000 pounds by July 10. Although my own location is not the best, some of my strong colonies bid fair to reach the 200-section mark.

On July 16, at 5 p. m., the official thermometer on the federal building reached 107° in the shade. Temperatures in the open ran to 130°. I did not visit my own bees until two days later. Before going I met an extensive producer from near Star, Idaho, who told me that he had lost $1500 in comb honey. Fifty colonies drowned outright, and the whole hillside was running with honey. With some misgivings I went to my own apiary and found I had not suffered so heavily, but some colonies were an awful wreck and many supers of comb honey that were ready to take off had melted down through the hive. I have not had time to investigate how extensive the damage is through this section, but there was undoubtedly heavy loss. From observation, I believe that much more honey comes in at temperatures ranging from 80° to 95° than from 95° upward. A temperature of 100° generally brings much loafing, with considerable loss of efficiency. Robert L. Scott.

Boise, Idaho.

In Indiana—This season thus far has been a study of its own. Warm weather early in March and April caused the bees to breed early and consume enormous amounts of stores—if they had them to consume, which most of them did not. I never saw a season when so much honey was consumed. Colonies used up 40 pounds and called for more. Some would have used sixty if they had been given the opportunity.

Just before time for sweet clover to bloom we had a severe drought so that the sweet clover looked brown. It did not seem possible for it to yield a particle of nectar, yet it did and a good flow came on. Then it began to rain and then rain some more. This caused the clover to take on new life and a very good crop of sweet clover honey was the result. The rains have caused the smartweed to grow, and the prospects are favorable for a good flow. Blue vine is in bloom and is furnishing considerable nectar.

Altogether it has been a freak season. Hot dry weather was followed by wet cold weather. Cold nights have made it bad for the queen-breeder, many advanced cells being torn down over night. However, all indications point to a good honey flow for the remainder of the season. Jay Smith.

Vincennes, Ind.

* * *

In Ohio—Intermittent showers have occurred since our last report and the almost-given-up honey crop has been changed to a fairly good crop in local sections. As a result, beekeepers' faces are now lighted with contagious smiles. Although the honey crop will vary considerably in our own apiaries, 10 in number, located in different sections, the crop will average about 50 per cent of a full crop.

The demand for queens is very good and increasing every day. Beekeepers are realizing the advantages of requeening every year. It certainly is a great satisfaction to go into winter with young queens, thus preparing for a good crop next year.

One of our leading beekeepers, who has some 500 colonies, expects to kill his bees this fall and get package bees from the South next spring. If this method proves successful it will greatly benefit the southern beekeepers in an increasing demand for package bees and queens.

The prospects for a good honey crop next season are not very flattering at present, as the clover that was seeded this spring has so far failed to grow, although it is a little early to know whether the recent rains will yet start it. Sweet clover seems to have made a bet-

ter showing and an increased acreage has been planted.

The Tri-County Beekeepers' Association is busily engaged in making arrangements to entertain the beekeepers attending the Ohio Field meet on August 20. We are expecting a large attendance. These meetings are of great benefit to beekeepers, since we become better acquainted with one another.

Our beekeepers are feeling more cheerful because our inspection service and disease situation are improving. Virtually all of the bees in this section have been inspected and very little disease has been found. Fred Leininger.

Delphos, Ohio.

* * *

In Iowa This part of Iowa, Jones County, has harvested a fairly good crop of fine clover honey. It kept the beekeepers guessing as to just what was going to happen, and there was no safe bet as to a crop until about the 15th of June. Prior to that it had been very dry, but we had several nice rains and things began to look rosy so far as moisture was concerned, but the clover yielded very sparingly in the forenoons, the bees getting most of the nectar afternoons, and not late in the afternoon at that. However, as near as we can tell at present, we will have 135 pounds per colony of clover honey, with the fall flow close at hand, which we are in hopes will be good. In this locality we expect the fall honey flow to put the bees in condition for winter, which it usually does and some to spare.

I have just recently received the State Apiarist's Report for Iowa, and while I have been too busy to read it as carefully as I intend, I find it is one of the best reports that has come from that office. Mr. Paddock deserves much credit for the report as well as the interest he has shown for the beekeeuing industry of our state. He is on the job, and we hope the state will see to it that he does not get away.

Comb honey is being cleaned up rapidly here. The larger lots are being bought by buyers from the larger cities at $4.50 per case of 24 sections, and by the looks of things but little comb honey will be available by the time cold weather sets in. There are but few large producers of comb honey in this county, however. Buyers are looking for extracted and we predict a good demand owing to the scarcity of fruit. Prospects for a good market look brighter than for several years if beekeepers "sit tight."

Swarming was bad with the comb-honey producers. It was epidemic in some cases, and people were coming after hives every day, and some after night—to be sure and be ready for the next day.

We enjoy Morley Pettit's articles very much. His articles are timely and show they come from the field of experience and a practical, or I should say professionional beekeeper. We can say amen to his method of cleaning wet combs by letting the bees do it in a wholesale way, if there is no American foul brood. We tried the Deadman plan, but it is too slow for anyone but the small beekeeper with but few combs to clean; and besides, as Mr. Pettit says, in most cases the bees store it right back in the combs, and they are not really freed from honey.

Center Junction, Ia. W. S. Pangburn.

* * *

In New York — The white-honey crop for the state as a whole is from fair to good, with northern New York leading and producers located where there is an abundance of sweet clover also getting a fine surplus. There is already a brisk demand for our clover and buckwheat honey, and prices should remain firm. Beekeepers who sell to large buyers of bulk honey are advised to inquire carefully into the market before setting a price.

Confidence among beekeepers as to the ability of the Herschel-Jones Marketing Service, sales agent for the Empire State Honey Marketing Co-operative Association, Inc., to sell honey, is growing. Already almost as much of the 1925 crop has been pledged as was sold by the Association during the past season. One large producer of buckwheat honey has promised a car for early delivery. Business is coming more easily to the Association, and slow paying receivers, who have been the main cause for dissatisfaction among the producers, are to get nothing except on sight draft, a procedure which will do much to insure the success of the organization.

The association has not only made excellent contact with the honey trade throughout the eastern United States, but has made connections with European buyers which offer good prospects for business with this year's crop. Export demand for American honey for the fiscal year ending June 30, 1925, was well over six million pounds, which was three times as great as the total export of the previous year.

The meetings of the Western New York Honey Producers' Association at Williamsville and the State Federation picnic at Theresa were very well attended. Huber Root demonstrated the new radial extractor and the uncapping machine at both meetings, and they were enthusiastically received. This same gentleman won a contest at the former meeting by getting the highest grade in

an examination consisting of twenty questions relating to apiculture. He tells me he is not usually given credit for knowing anything about bees out at Medina, so the Editors and Old Drone will please take notice.

Wild marjoram, also called sweet marjoram (Origanum vulgare) is reported by Charles D. Mott, of Poughkeepsie, to be in sufficient abundance near one of his yards in Dutchess County to produce a surplus. This is an important source of suppy in the southern Lake George region, but has never been reported before as important elsewhere in New York.

The food-chamber idea is rapidly winning favor in New York. It is hard to start because it means more capital, in the form of honey, invested in the business. However, it is capital that pays tremendous dividends and for that simple reason it is fast becoming the regular practice with our beekeepers.

Ithaca, N. Y. R. B. Willson.

* * *

In Ontario—If these notes have a sticky appearance, the reason will be quite obvious when I hasten to explain that we are right in the midst of our annual hustling season—just when buckwheat is starting to yield and clover is secreting nectar in seven of our ten yards here at the home center. While we have the clover honey all above escapes, just now our problem is to get the honey extracted so as to be able to give colonies more room—all colonies had but one super below the escapes when clover honey was hoisted.

Judging from reports received since my last notes were sent in, the crop will be about as stated in the August issue. Southwestern Ontario has given lighter yields than usual in most places, while the northern and eastern parts of the province have given heavy yields in many sections. Our Binbrook apiaries come under the light area, while here at home we are between the very dry and the very wet parts of the province this season. We have a nice crop here at home and prospects are good for a flow from buckwheat, of which there is the usual acreage. This crop is increasing every year, as the Russian perennial thistle is a great menace to farm crops and buckwheat is a good crop to combat this weed. This thistle yields quite a lot of honey when the ground is moist and the weather warm. Honey from this source is a light lemon color and, while it is of fair flavor, yet it does not improve clover honey when mixed with it, to my taste at least.

Mr. Pettit strongly endorses the method used by many to have their wet combs cleaned. With all due respect to his opinion, I think that it is one of the most dangerous practices in vogue among beekeepers, and that our present stringent law for the control of foul brood is ridiculous in some respects, especially when it is seemingly quite lawful to expose wet combs at any time and at any place. Mr. Pettit says no disease is spread by having his combs cleaned out in that way. Possibly so, but he can never be sure about it. In at least two different cases we got a bad dose and knew nothing about it until we saw it first in the brood-chambers. The same thing might happen with him also.

But all who expose combs are not in the position that Mr. Pettit is in regard to using this method. I have heard of one case where a beekeeper exposes his combs to be cleaned where there are no bees of his own within flying distance of his extracting plant. And he has had lots of foul brood in the past. A neighbor has nearly 100 colonies within half a mile of our plant, and we do not put our combs out to be cleaned, although we are careful and would not knowingly expose any combs that we thought might possibly be infected. We have no trouble with bees trying to get into our extracting house, even with thousands of wet combs stored there, and we avoid trouble from robbing at the yards when first supers are given in the spring by having all colonies marked that are to be supered, then going towards evening to do the work. Yes, I would rather have the combs dry, but the Golden Rule prevents me from putting out thousands of combs to be cleaned by neighbors' bees, so I put up with the inconvenience the wet combs cause us.

Recent amendments to the foul brood law for Ontario make it unlawful for me to move a single colony from one yard to another without first having it inspected and obtaining a permit. I am not even permitted to move infected colonies to an isolated place before treating them, no matter if I use care and good judgment. This means that diseased colonies must be destroyed, no matter how strong they are, for it is adding fuel to the flames to shake an infected colony if it has another by its side, as the latter is then sure to become diseased. Yet I can expose wet combs at will and have the blessing of the powers that be; at least, I have not heard that a permit is necessary and that the bees must all be inspected before the combs are exposed. So I repeat that to me the Act as it now stands appears ridiculous in some respects. It is a case of "straining at a gnat and swallowing a camel."

Markham, Ont. J. L. Byer.

HEADS OF GRAIN FROM DIFFERENT FIELDS

Wrens Valuable to Beekeepers The little wren birds are one of nature's best exterminators of the wax moth that we have. The wax worm that hatches from the egg laid by the moth and feeds on and destroys the comb is one of the parasites of the honey-bee. In the daytime the moth lies quiet in obscure spots around the beehive. The mother wren gathers them by the mouthful to feed her young. A few wren houses put up around the apiary are a good investment. If you make your own wren houses make the opening just the size of a 25-cent piece so the larger birds will not molest the little wrens.

Clear Lake, Iowa. E. N. Renz.

Selling Granulated Honey Should we educate the public to use granulated honey, or should we spend much time and money liquefying it? The latter is an expensive process with a lot of us. Of course, our bottled honey requires liquefying, but why go to the trouble of liquefying honey for 2½, 5, and 10 pound pails? Why not take the time and money we spend liquefying honey and teach the people the purity and nature of honey?

The big honey-producer is generally prepared to liquefy honey at a small expense, but this isn't true of the smaller producer. He isn't prepared and often makes a failure of things. He finds competing with the big fellow hard sledding. It is a shame how little the majority of people know about honey, and the merchants are not an exception in this case. Time after time I have had my attention called to the fact (?) by some merchant that my honey isn't pure, that it has gone to sugar and people will not buy it. Of course, they should know better, but they don't. It is up to the honey-producers to teach them. Leroy Churchman.

Eureka, Kan.

Fall Treatment for American Foul Brood Dr. Hutzelman's solution enables the beekeeper—large or small—to control American foul brood and produce large crops of honey more cheaply than formerly. With our long severe winters and very often late unfavorable springs, a colony with just a few cells showing disease in the late fall should be destroyed and the combs disinfected. A careful late fall inspection is necessary, since not one out of six such colonies will winter under ordinary conditions, and the risk is too great to justify keeping them. Much of this loss is classed as winter loss. And the hives and combs are used the following season, forming an endless chain of disease. Beware of weak colonies in the spring. They very often contain this disease carried over from previous fall. To avoid spring tinkering, reserve enough full frames of early honey for spring feeding, then disinfect all empty combs removed in feeding. Later a thorough inspection can be made. Beginners should make a careful study of American foul brood before engaging in beekeeping. If they do not their experience will be the same as that of many South Dakota small beekeepers — interesting and exciting, but not profitable.

Hawarden, Ia. A. McBride.

Does Not Recommend 8-Frame Hive [The following letter to Morley Pettit, with his reply, should clear up any misunderstanding regarding Mr. Pettit's article on pages 360, 361, and 362, June issue of this journal.—Editor.]

Dear Sir:—I am impressed with the statement in Gleanings that you prefer the 8-frame hive in producing section honey while most beekeepers are condemning it as being inferior to the 10-frame hive. In a few words, kindly tell me the deciding advantages of the 8-frame hive. W. E. Pickett.

Michigan.

Dear Sir—I am afraid you will have to give me chapter and verse. I never intentionally advised anyone to use 8-frame hives for any purpose. In fact, my article in June Gleanings was not meant as advice on how to produce comb honey, but on the advisability of producing it instead of so much extracted honey. Then I told how we used to produce it some years ago. We did not use 8-frame hives but at a certain time in the season we reduced the brood-chamber space to force more workers into the supers. I explained that we did this only with swarms that we did not intend to winter. We produced more and better sections at the expense of the colonies, counting on swarms to keep up our numbers. Now I would count on southern packages instead of natural swarming.

I find the 10-frame L hive very satisfactory by running it with the brood-chamber double most of the year, and prefer it to any other hive on the market.

Georgetown, Ont. Morley Pettit.

Bees Killed in Fruit District There has been considerable loss of bees again this year in the fruit sections of this state due to the arsenical sprays. The experiment station at the State College of Washington has been working spasmodically on this question but to date has not found a practical, economical method of prevention. Some of the beekeepers are moving to other sections, and, I am sorry to say, some to other states. The dearth of bees is being felt by the fruit-growers, especially in the Wenatchee district. I spent two days, about a year ago, in the district and found only 25 colonies in that length of time. They are having difficulty in securing a perfect set. By that I mean a large number of lop-sided apples are found upon the trees, due to imperfect pollination. Some fruit-growers are buying bees just for pollination purposes, knowing that they will be killed during the year. B. A. Slocum.

Pullman, Wash.

Colony living in the open in South Africa.

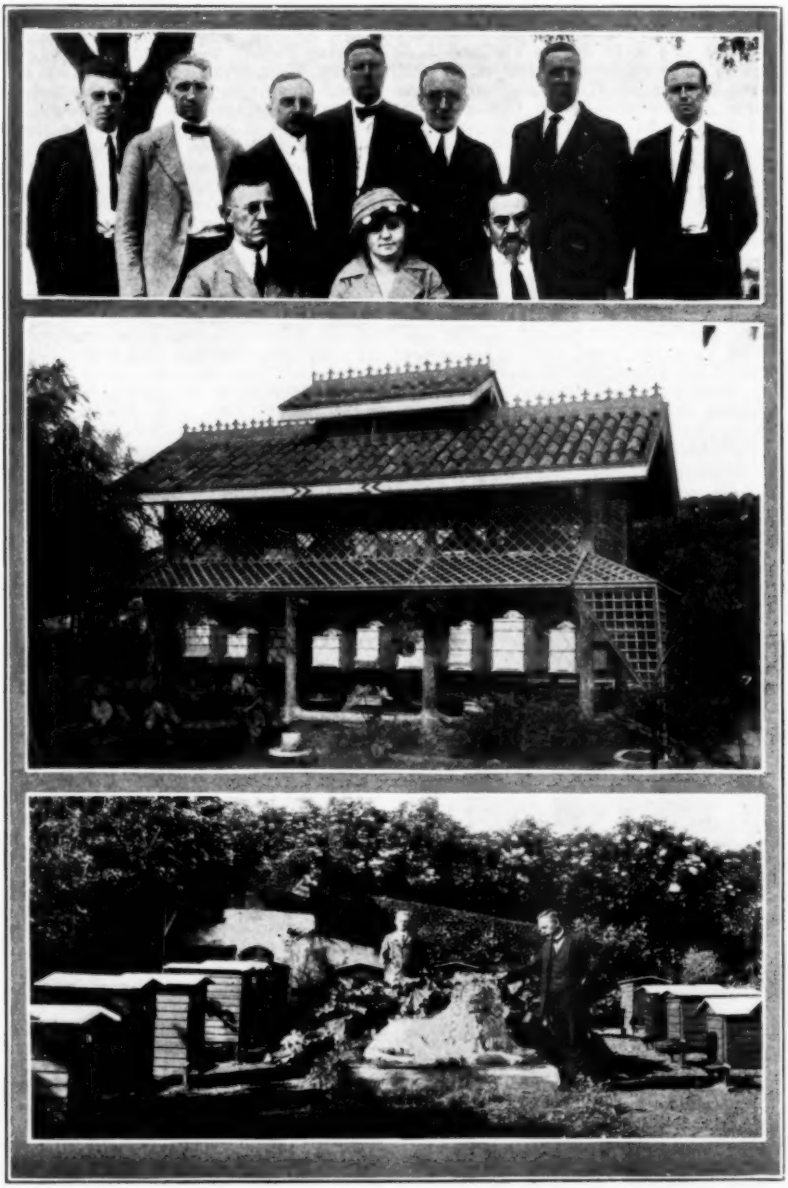
Brood Killed by Boiled Honey In reading in the July issue of Gleanings Mr. Byer's experience in feeding boiled honey to bees in the spring, I am reminded of an experience I had along this line some years ago. It happened one spring when practically no honey came in up to the time the clover honey flow began. Naturally some of my bees were running short of stores, and having on hand some foul-brood-contaminated honey, I fed this to them after I diluted it with water, equal parts, and boiled it for one hour, then let it cool and boiled it another hour before I fed it to the bees. On examining the bees about a week afterward I found everything all right, with the exception of two colonies which were totally void of any living unsealed brood. Then I remembered that these two colonies were just at the end of their stores when they were fed. I then took the hint, made some sugar syrup and mixed it equal parts with the boiled honey, and fed it to these two colonies. From that time on brood-rearing went on as usual and everything was perfectly normal as far as I could see. Consequently I conclude that boiled honey alone is not fit feed for bees. Moody Brenneman.

Berne, Ind.

The Water-Formalin Solution I wish to state on my own responsibility that commercial formaldehyde added to four times its volume of water will disinfect combs infected with American foul brood. All honey should be washed from such combs, the combs air-dried, and then allowed to soak for 100 hours in the solution. In making this statement I have as its proof some 600 brood-combs so treated that have stood the test of this season, and some of them have passed two years' inspection. I am quite certain that a 48-hour dipping is insufficient, for in a few cases re-infection occurred even after 60 hours. R. W. Stratton.

Delhi, Calif.

[It is unfortunate that Dr. Hutzelman did not write up fully the research work he did in the development of a method of sterilizing combs containing American foul brood, since he went over the same ground several years ago in experimenting with the water-formalin solution that is now being gone over by research men in various colleges and by beekeepers. However, the continued research by many workers may bring some important developments in finding a cheaper vehicle than alcohol to carry the formalin that will penetrate the diseased material in a reasonable length of time.—Editor.]



Upper—Group of beekeepers at one of the Wisconsin summer meetings. Left to right, standing, V. G. Milum, formerly apiarist at University of Wisconsin and recently appointed professor of beekeeping at the University of Illinois; H. F. Wilson professor of beekeeping, University of Wisconsin; Geo. S. Demuth, Colin P. Campbell, vice-president of the American Honey Producers' League, Dr. E. F. Phillips, E. S. Miller, L. P. Whitehead, extension apiculturist, University of Wisconsin. Seated—E. R. Root, Miss Militta D. Fischer, C. P. Dadant. Middle: Apiary of Manual Fiuza, Pernambuco, Brazil. Lower: Apiary of A. P. Andersen, Gadstrup, Denmark. The concrete image of a lion contains a colony of bees, the entrance being through the nostrils.

TALKS TO BEGINNERS

Geo. S. Demuth

During September and early October the bees complete the shaping of their affairs for winter. If they are able to gather nectar from fall flowers they now store more of it in the brood-chamber, sometimes crowding the brood-nest until but little room for brood is left. The honey is stored in the upper and back portions of the combs away from the entrance, the reduced brood-nest being crowded toward the entrance. Late in September or early in Octobter there is usually left only a small sphere of brood in the lower front portion of the brood-chamber if the colony is well provisioned with honey.

The queen then ceases laying entirely or the bees refuse to care for the few eggs she does lay, and brood-rearing is suspended for the winter. This usually occurs about October 1 in the North and a few weeks later in South, the exact time varying from year to year according to weather conditions and the presence or absence of nectar. When the last of the brood emerges there is left a somewhat spherical portion of the brood-chamber in which the combs have vacant cells. This becomes the center of the winter cluster if the interior of the hive becomes so cold that the bees are compelled to form a compact cluster to maintain the required temperature within.

As a rule, it is not advisable to break up this arrangement of the winter stores and vacant cells unless necessary. If combs are taken out of the brood-chamber during this month, they should, as a rule, be put back in the same position. It is not often necessary to handle the combs of the brood-chamber during September except for some special manipulation. If the colony had a young queen that was laying in a normal manner last month, one may be reasonably sure that she is still present and at work if conditions are favorable for brood-rearing. The amount of honey can be estimated by lifting the hive or by looking in at the top. Lifting up a single frame from the middle of the brood-chamber often enables the beekeeper to judge as to the condition of the colony without examining other combs, since the amount of brood and the amount of honey the colony has at this time tells most of the story regarding the condition of the colony.

Honey Plants That Bloom in the Fall

Many nectar-bearing fall flowers come into bloom in September, and in localities where these are abundant the bees are often able to store considerable honey during the month. In the buckwheat region, buckwheat often continues to yield during the first week or ten days of September. In portions of the northeastern states, goldenrod often yields enough nectar so that the bees are able to store surplus honey from this source. In swampy places many fall flowers come into bloom early in September, sometimes furnishing enough nectar to cause the bees to work well in the supers. In the corn belt of the Mississippi Valley heartsease (commonly known as smartweed) is sometimes abundant during wet seasons and continues to furnish nectar well into September. In some localities surplus honey is often secured from this source. Later in the month the asters come into bloom and continue until frost. In some localities they enable the bees to fill up their hives late in the season.

The recent rains throughout most of the eastern portion of the United States have greatly benefited the fall nectar-bearing plants, so that in some localities it may be necessary to put on more supers to give the bees room to store the fall honey; but in most localities there is but little fall honey, and often the bees gather less than they consume during the remainder of the season. Sometimes the fall honey flow is so light that the bees spend so much energy in searching that the colonies become greatly depleted, the bees wearing themselves out by ceaseless searching. In such cases it would probably be better if there were a dearth of nectar instead of just enough to cause the bees to wear themselves out in this way.

Supplying Room for Fall Honey

Where there is enough fall honey to cause the bees to store some surplus the work in the supers should be watched closely to be sure that the bees will have all of the room they need for storing. If an upper story of empty combs or frames with full sheets of foundation was given at the beginning of the fall honey flow, as advised last month, it may not be necessary to give a third story unless there should come a rapid honey flow. If more room is needed, some of the combs that have been filled and sealed can be taken from the middle of the upper story, the honey extracted, and the combs put back. When this is done it is well to move the partly-finished honey to the middle of the upper story and place the empty combs at the sides. If the upper story is to be left as a food-chamber, it is usually best not to take away any of the honey, especially if it is filled with

white honey that was gathered early, since the white honey is, as a rule, better for winter stores than the fall-gathered honey. In this case, if more room is needed, it will be necessary to give a third story.

Owing to the shorter days and cooler nights, together with the natural inclination of the bees to store the honey in the brood-chamber instead of in the supers, it is difficult to produce comb honey in the fall unless the fall honey flow is heavy. However, during a good fall honey flow comb honey can be produced even in September, and in such cases it is advisable for those who do not have an extractor to put on comb-honey supers in order to supply sufficient room during a good fall honey flow. As a rule, it is much better to take the fall honey in the extracted form.

Importance of Brood-Rearing in September

The fate of the colonies during the winter and their prosperity next spring depends to a large extent upon the amount of brood reared this month. Where there is a fall honey flow there is usually enough brood reared in August and September to insure a good colony for winter. But if there is a dearth of nectar, other conditions must be favorable if the colonies are to have enough young bees for successful wintering and building up in the spring. Colonies that are too weak to take care of at least two or three frames of brood, colonies that run short of stores, colonies that have old or otherwise poor queens, and colonies that become queenless during this period, will be in poor condition for winter. In order to have all the colonies in good condition for winter it is necessary to be sure that each has enough bees, plenty of honey, and a good queen at this time, so that fall brood-rearing shall not be interfered with in any way.

Where brood-rearing has been stimulated by a fall honey flow, the colonies should have brood in six or more combs at this time. If there is a dearth of nectar there will be less, but if the bees have plenty of honey and a good queen they will still rear enough brood during September to make a good colony for winter. The equivalent of three of four frames well filled with brood in September is about as much as can be expected where there is no fall honey flow. Colonies that have poor queens or that are short of stores will have still less and therefore be in poor condition for winter.

What to do With Weak Colonies

One of the most common mistakes made by beginners is that of attempting to winter colonies that are too weak. Often excessive swarming or artificially dividing colonies results in having many little colonies for winter. If conditions are favorable, even two-frame nuclei can be built up to sufficient strength for winter after the middle of August; but after the middle of September small colonies are not able to build up in time for winter in the North. In case there are several small colonies that are able to take care of only two or three combs of brood the middle of this month, it is better to unite them to form one or two good colonies instead of trying to winter them separately. If this uniting is done this month, the united colony will still have time to arrange affairs in the brood-chamber for winter. There are also some advantages in uniting the brood instead of waiting until the brood emerges and uniting the resulting bees.

To unite two or three weak colonies, the cover of the strongest one may be removed and a newspaper having a few pinholes punched through it spread over the frames, then the hive of another colony with the bottom-board taken off set directly on top of the paper. A third colony can be put on top of the second in a like manner, if desired. The bees will gnaw away the newspaper and unite peaceably, after which the combs can be sorted and those containing brood put into a single hive body. If the other combs contain only a little honey it may be well to place the hive body containing them below the one containing brood, in order to induce the bees to carry the honey up and store it in the chamber containing the brood. It will be necessary to uncap sealed honey to induce the bees to carry it up. If there are several frames filled with honey, these should be arranged in a second story immediately above the brood if the colony is to be wintered in two stories.

Should Have Plenty of Honey

If any colonies are found to be short of stores at this time and not gathering more than a living from the fields, they should be given at least two combs of honey taken from another colony, if it can be spared. If not, such colonies should be immediately fed ten or fifteen pounds of sugar syrup made by stirring together about equal parts (either by weight or by volume) of sugar and water. This can be mixed cold and sugar added until no more will be dissolved. This is not intended to be the winter stores of the colony, but simply a reserve to prevent a reduction in brood-rearing at this time. If there is no nectar in the flowers it may be necessary to repeat this later in the month. If feeding for winter is necessary, this should usually be done early in October after brood-rearing has ceased.

JUST NEWS
Editors

"Beekeeping for Beginners" is the title of a new bulletin by Prof. H. Garman of the University of Kentucky. The bulletin is published by the Kentucky Agricultural Experiment Station at Lexington, Ky.

* * *

Prof. V. G. Milum, of the University of Wisconsin, has recently been appointed to fill the vacancy in the beekeeping division of the Department of Entomology, University of Illinois. The vacancy in the University of Illinois was brought about by the resignation of Prof. Wallace Park, who is again taking up research work in the Iowa Agricultural College at Ames, Iowa, where he formerly held a similar position.

* * *

A picnic for western Pennsylvania beekeepers and all others who wish to attend will be held at Conneaut Lake Park Park, Pennsylvania, on Thursday, September 10. While this picnic is being staged by the Crawford County Beekeepers' Association, everybody within driving distance is cordially invited to attend. Ice cream and coffee will be served free. A. B. McGuire is secretary of this association.

* * *

The National Show of Bees and Honey to be held at the Crystal Palace, Sydenham, England, on September 10, 11, and 12, is an important feature in British beekeeping events of the year. This show of bees and honey was first organized by the Kent and Surrey beekeepers' associations and has grown into national importance. Thirteen challenge cups and trophies at a value of over $750, appliances to the value of $95, silver and bronze medals and certificates, miniature silver cups, as well as $225 in money prizes, are offered. One class, consisting of 36 jars of honey of one to six colors, for which there is a challenge cup with medals, is open to the world.

* * *

The annual meeting of the Georgia Beekeepers' Association will be held at Valdosta, September 14 and 15. A field meet at the apiary of J. W. Sherman will be a feature on one of the days. Valdosta's being located near the Georgia-Florida line in the center of the commercial honey-producing regions of the two states should make this one of the most important meetings in the South this season. W. C. Barnard, Glennville, Ga., is secretary-treasurer of this association.

The Schedule Committee of the American Honey Producers' League for the southeastern states has arranged meetings in September as follows: Maryland Beekeepers' Association at Timonium Fair, near Baltimore, on September 7. This meeting is in charge of Prof. E. N. Cory, College Park, Maryland. The Tennessee Beekeepers' Association at Knoxville, September 8 and 9, with Prof. G. M. Bentley in charge of arrangements. The combined meeting of the North and South Carolina Beekeepers' Associations at Charlotte, North Carolina, September 10 and 11. F. B. Meacham, State College, Raleigh, N. C., and E. S. Prevost, Clemson College, S. C., have arrangements in charge. The Georgia Beekeepers' Association at Valdosta, Ga., September 14 and 15, with W. C. Barnard, of Glennville, in charge of arrangements. The Alabama Beekeepers' Association at Montgomery, Alabama, on September 16 and 17, with M. C. Berry, of Montgomery, in charge.

* * *

The Bee-Culture Laboratory at Washington announces that in co-operation with the Bureau of Agricultural Economics, a type of grader has been perfected which quickly and accurately determines the color grade of any sample of honey. The active principle of this grader consists of a wedge-shaped vessel for containing the sample of honey to be graded, this, in turn, being compared with an inversely placed wedge of amber glass. The two wedges are viewed simultaneously through a slit which permits light to pass through from the rear. When the color of the honey and that of the glass wedge match, the color grade of the honey is indicated on an appropriate scale calibrated with the standard commercial grades of extracted honey. These grades will be recommended as standard for the United States by the Bureau of Agricultural Economics. Although the cost of the grader is high ($40.00), it will give the beekeeping industry a reliable and permanent instrument for grading the color of honey. It will also serve as a standard for calibrating cheaper and more temporary graders. The Bureau of Agicultural Economics will probably have these graders in their offices in the principal honey-producing localities, available for the use of beekeepers in those regions. The Bee-Culture Laboratory will be glad, on request, to determine the color grade of any sample of honey. A 4-ounce sample of clean, well-strained honey in proper mailing tube will be sufficient for examination. No charge will be made for this service.

GLEANED BY ASKING

Geo. S. Demuth

Metal Winter Cases

Question.—I can buy metal siding for making winter cases for about one-fourth the cost of lumber. Do you think it would be as good as lumber for this purpose? H. Grimble.
New York.

Answer.—Winter cases made of metal should afford practically the same protection for the bees as the wooden winter case, providing both the metal and the wooden cases are built with the same outside dimensions. This would allow more space for packing in the metal case on account of the siding being thinner, which would compensate for the insulating value of the wood. The extra ¾" for packing material such as planers' shavings or finely broken forest leaves would really afford more protection than ¾" siding in the wooden case.

Wintering in Two Stories

Question.—Do you think it advisable to winter bees in a two-story hive having a full-depth super full or partly full of honey on top? Can the bees keep up sufficient heat with this added space to keep warm?
Ohio. Lewis D. Taylor.

Answer. — If all other conditions are right, bees should winter well in two-story hives in your locality. In fact, there is apparently an advantage in wintering bees in this way because the cluster extends into both hive bodies, thus permitting the bees to move laterally from comb to comb in the space between the two sets of frames. As the cluster contracts or expands with the changes of temperature the bees on the outer combs move in or out, as the case may be, without having to pass around the comb, as is necessary when wintering in a single story. The most important advantage in the second story, however, is in the greater supply of honey, thus making it unnecessary to feed, especially in the spring. The greater space within the hive when wintering in two stories calls for more packing to afford the same degree of protection than a single story, but when good colonies are properly packed for winter in two stories they should need no further attention until late the next spring.

Bees Lost After Moving Hive

Question.—After I moved my colonies many bees swarmed around the old location. These bees were quite cross. What can I do with them? E. W. Painter.
Illinois.

Answer.—When a colony of bees is moved to a new location most of the field worker go back to the old location. If there is no hive near for them to enter, they are lost and will die from starvation and exposure. It is well to place an empty hive containing a few old combs on the old location, then in the evening when the bees have gone into this hive it can be moved to the new location and the bees shaken from their combs in front of the entrances of the hives. By doing this each day for two or three days most of these bees will learn to go back to the new location.

Queens Reared Above Excluder

Question.—What becomes of young queens that emerge from cells built on combs of brood that have been put up above the supers and therefore above the excluder?
Maine. Robert Benson.

Answer.—In rare cases a colony will attempt to swarm when young queens are reared above an excluder. There is apparently less danger of this happening if there are two or three supers between the brood-chamber and the hive body containing the brood on top. If there is no opening for them to escape to mate, young queens that are permitted to emerge above an excluder finally disappear, evidently being killed by the workers. Frequently these young queens can be found balled on the upper side of the excluder.

Reasons for Requeening

Question.—Do young queens lay longer in the fall and start earlier in the spring, or what is the reason for re-queening.
Pennsylvania. Eli L. Yoder.

Answer.—Young queens that begin to lay in July or early in August usually lay more eggs and continue laying a little longer in the fall than old queens. Under such conditions, therefore, colonies having young queens are usually in better condition for winter than colonies having old queens, since they have a greater number of young bees. It is doubtful if there is much, if any, difference between old and young queens as to the time they begin laying in the spring if the colony conditions are the same. However, colonies that fail to rear enough young bees for winter because the queens are old are usually compelled to begin brood-rearing earlier in the spring than colonies which had an ample number of young bees the previous fall. The early brood-rearing is a distinct disadvantage instead of an advantage, in most northern localities. During the peak of the spring brood-rearing (May in your locality) many old queens fail just at the time brood-rearing is most desirable in rearing bees for the early honey flow, although many two-year-old queens do just as well as younger queens during this brood-rearing period. This is especially true when the colonies are run for comb honey, since the queens are not worked so hard in comb-honey production as they are in

extracted-honey production. In the South where the seasons are longer the queens wear out earlier, making it desirable to requeen every year. Another reason for re-queening is that of the impovement of stock. Many colonies are practically worthless on account of being poor stock. By requeening with good stock such colonies may be made profitable.

Room for Expansion in 60-pound Cans

Question.—How nearly full should 60-pound cans be filled to allow for expansion of honey when heating to melt it after it has granulated? A. Mottaz.
Illinois.

Answer.—As a rule, the cans are placed on scales as they are being filled and 60 pounds of honey is put into them. If the honey is well ripened, the cans will then not be completely filled, but even if they should be completely filled there should be no trouble from expansion when heating the honey, since the sides and tops of the cans bulge out enough to allow for this.

Immunity to European Foul Brood

Question.—European foul brood is bad in this part of the country. Will pure Italian bees succumb to this disease?
Iowa. B. P. Scarlett.

Answer.—While Italian bees are not immune to European foul brood, they are better able to get rid of it than blacks or hybrids. As a rule, a strong colony of Italian bees of good strain that is afflicted with European foul brood during the spring months will clean it up so that little if any disease can be found during late summer and fall. In many cases the disease does not reappear in such colonies the next spring provided they are strong, and especially if there is a good early honey flow. The important thing to do when European foul brood is present and the colonies are already Italianized is to see that all of them are abundantly strong at all seasons. If any should become badly infected in spite of this precaution the queen may be killed, the colony left queenless for 10 days or two weeks, then a young laying Italian queen of resistant strain introduced. This usually results in the diseased material being cleaned out of the combs and carried from the hives before the nurse bees begin to feed the young larvae from the new queen.

Leaving Honey on Hives After Honey Flow

Question.—I leave the supers on the hives until I am ready to sell the honey. Is this a good plan? J. H. Clayton.
Mississippi.

Answer.—That depends. In some cases leaving the honey on the hives a couple of weeks after it has been sealed results in the honey being thicker and finer in flavor. But if there should come a spell of cold, damp weather, driving the bees out of the supers and exposing the honey to a wide variation in temperature, it may absorb some moisture and thus not be as good as when first sealed. Again, market conditions sometimes make it advisable to hold the honey until cold weather, at which time it would be difficult to extract it. As a rule, it is better to take the honey off the hives when it is fully ripened, then store it properly, rather than take it off in relation to the time of marketing it.

To Prevent Rusting of Honey Cans

Question.—How can honey cans be treated to prevent rusting? A. E. Jefferies.
Illinois.

Answer.—Some use cans that are lacquered to prevent rusting, but if the honey is stored where there is not much variation in temperature, there should not be trouble from rusting when ordinary tin cans are used. Rusting is usually brought about in cans filled with honey by a wide variation in temperature. When honey becomes cold during a cold spell of weather it warms up so slowly when the weather turns warmer than the cold metal exposed to the warmer atmosphere brings about condensation of moisture on its surface. This explains why empty cans are less inclined to rust than cans filled with honey, since the air inside the empty cans warms up rapidly when the outside temperature rises, so that the metal remains at about the same temperature as the atmosphere, therefore condensation does not take place.

Feeding for Winter in October

Question.—What is the reason for advising the postponement of feeding sugar syrup for winter until the last brood has emerged? That would mean putting it off until about October 21 in this locality. Elmer Lehman.
Ohio.

Answer.—The reason for such advice is that the sugar syrup, when fed late, will be stored below the honey, where it will be used first during the winter. If fed early, the bees might store inferior fall honey below the stored sugar syrup, thus putting it where it would be used first during the winter. This advice is usually given in connection with feeding to correct the quality of winter stores. It is not necessary to wait until the last of the brood has emerged. In your locality any necessary feeding can usually be done any time between October 1 and 15. Another possible advantage in feeding late is that the bees are then inclined to be less active and there is probably less waste brought about by the excitement incident to feeding than when it is done earlier. This excitement not only causes the bees to consume more of the food given but also uses up their vitality so that the individual bees may not live as late in the spring as they would if they had been less active in the fall.

BEES, MEN AND THINGS
(You may find it here)

"Bees are working heavily on red clover in this locality. The fields just roar with bees."—Arnold Sotton, Tipton County, Indiana.

"The honey crop here is very short, being only about one-third of normal, and the drouth still hangs on."—F. F. Shaw, Trinity County, Texas.

"I have been in beekeeping for 44 years and will harvest my largest crop of honey this season. I will have 10 or 12 tons!"—J. A. Elliott, El Paso County, Colo.

"I have had a very busy season since I increased my apiary in the spring by 100 per cent and have extracted 25,000 pounds of honey."—Capt. P. M. Ferro, Yugoslavia.

"In my last report the average yield was given as 150 pounds per colony, which is a mistake. Ninety pounds would be nearer right."—G. W. B. Saxton, Yakima County, Wash.

"I am harvesting a fair amount of sweet clover honey. I had 34 colonies, spring count, and will have about one ton of honey, 500 pounds of which have already been sold."—Amos L. Cornish, Hardin County, Ohio.

"Dry weather here is cutting the honey crop short and it will soon be over. My hives are three to four stories high, but unless it rains soon there will not be many more supers needed."—F. M. Parsons, Douglas County, Nebr.

"Many colonies are dying out here as a result of being queenless. I have never heard of so much queenlessness before. This is a result of the bees' swarming worse than ever here this season."—C. E. Fowke, Allendale County, S. C.

"There are some 15 or so different varieties of algaroba, principally in Mexico and South America, that have been identified by scientific men, but none of these are identical with the one found in Hawaii."—Leslie Burr, Mendocino County, Calif.

"Do you know what a fine wheelbarrow you can make by using a bicycle wheel? It rolls easily over obstructions and is so easy on combs that none are apt to be broken as the tire takes up so much of the jar."—E. S. Miller, Princess Anne County, Va.

"I wonder if the beekeeper from New Jersey who complained of moldy combs had the back of the hives raised up enough so that any rain or excessive moisture would run out at the entrance of the hive."—Mrs. Fannie Calvert, Chase County, Kans.

"Introducing queens by smearing them with the contents of a beaten raw egg has given me 100 per cent success thus far. This stays on the queen much longer than honey and thus protects her from being detected much longer."—A. H. Schmidt, Washington County, Minn.

"Beekeepers here are just beginning to remove a very fine crop of cotton honey. The yield is about 50 pounds per colony. Some apiaries in more favored localities will produce 100 pounds per colony. Conditions are favorable for a fall honey flow from aster and goldenrod."—E. W. Cothran, Lamar County, Texas.

"An old saying is 'No swarming, lots of honey.' I haven't heard of a swarm in this locality this season, neither have I heard of any honey. Clover bloomed the first of June and lasted four days when it was burned up by the drouth, and there has been nothing since."—A. G. Sterling, Cayuga County, N. Y.

"If the weather continues to get cooler, I am afraid that we shall be greatly disappointed in our honey crop, since we all looked for a big crop this season. The weather has been just wrong—too hot during the day and too cool at night. Even old bee-men can not account for the slump, unless it is that the territory is overstocked."—J. E. Miller, Bonneville County, Idaho.

"I have found something out of the ordinary for this state, as far as I know or have ever heard. I found a swarm of bees in a hole in the ground where a skunk or groundhog had dug a cavity. They were about two and one-half feet back under a root. I dug a hole in the dirt above them and drove the bees up into a hive, then dug in and transferred the brood."—W. E. McFarland, Monroe County, Mo.

"The honey flow from white clover and sweet clover continued here for only three weeks, when all the blossoms dried up and the bees began feeding on their stores. The average crop here is about 45 pounds per colony. Some of my colonies produced 30 pounds and some 60 pounds, so I make the average 45 pounds. The drouth was broken the latter part of July and we have been having showers, so I am looking for a good crop of goldenrod and Spanish needles honey this fall."—M. C. Rathbun, Montgomery County, Kansas.

A. I. Root's Story of His Own Life

Wisdom is as good as an inheritance; yea, more excellent is it for them that see the sun. For wisdom is a defense, even as money is a defense; but the excellency of knowledge is, that wisdom preserveth the life of him that hath it.—Ecc. 7:11.

In December, 1874, I was very busy with other work and meanwhile we had such severe weather that all the unsealed brood in the colonies in the greenhouse was destroyed. This might not have happened if the sash had not been left so that the interior was exposed. From this I judged that the vitality of brood and eggs is destroyed by exposure to a temperature of 50 degrees for any length of time. This accorded with my experiments in sending eggs by mail. It succeeded only during the hottest part of the summer, and even then small larvae among sealed brood seem to give best results, the sealed brood retaining considerable animal heat.

The weather soon moderated again, but still too many bees were found dead on the floor and clinging to the sash. To test another plan, I arranged each hive so that the bees could have an entrance outside as well as inside. This did not work, however, for, as soon as the sun warmed the interior, the hives "drew" like stoves; that is, they drew in the cool outdoor air and sent a strong draft out of the entrance of each hive inside the structure. This draft kept the bees so cool they would not fly at all; and, even if the air had been quite warm enough outside, I think such a current through the hive would be of questionable utility unless in hot weather it could serve as a patent ventilator.

This difficulty, however, I easily remedied by placing the hives a few inches from, and with the entrances facing, the wall of the structure. An opening in the wall before each hive, therefore, permitted the bees to go out in suitable weather, and when gathering honey they could readily alight as near the entrance as in case of a hive with a Langstroth portico. As I expected to keep the interior of this building above the freezing point without any artificial heat at all seasons of the year, these entrance holes could be closed whenever the bees had no need of them.

Bees Mark Their Location After Short Confinement

On December 10 I put five more weak colonies into the glass house; and as these had not had a flight for a week or two, I was agreeably surprised to see the bees from them hover in front of the hives before flying against the glass, as did those put in first. The consequence was that they nearly all returned to their hives without any confusion. As I could now set the bees at work any day by starting a fire in the stove, I proposed to keep these colonies, including the nucleus rearing brood, until spring or at least until all of them should be strong.

Strong Instinct for Quiescence Early in Winter

By December 21 I had found that this plan would not work either. It seems that bees get lazy if they can not fly out in the open air. Many times before I had been half inclined to think this the case, but concluded it was the cool weather that prevented them from working on the syrup as they did in October. When I first put the three small colonies in the glass house, the bees covered the feeder so as to look like a small swarm hanging to the strip of wood, and they took away half a coffeepot full of syrup during favorable weather; but, after getting the combs pretty well filled, they seemed to lose their enthusiasm. Similarly, other colonies, brought in later, appeared to have all their natural disposition for robbing, yet it soon gave way to a kind of listless disregard of the amount of honey or syrup that was thus exposed about the interior, and warming the room by artificial heat did not seem to restore their passion for the accumulation of stores.

I do not mean that the bees could not fly, for they really did go all over the room and back to their hives with very little loss, and the combs, bees, and all seemed bright and healthy. At this time only one colony was rearing brood and they worked only enough to gather meal daily for the nourishment of the brood. In the morning, as soon as the room became warm enough, they worked quite briskly, but gradually stopped, so that by one or two o'clock flying had about all ceased. Then by the next morning the supply would be nearly all used up. This colony would take no notice of honey or of syrup.

By this time it seemed quite certain to me that weak colonies could be wintered in such a building that could not

be wintered otherwise. At any rate, the "teacupful" nucleus was as healthy as could be desired and the bees flew out in the sunshine and back again as safely as in the open air, and yet they would not rear brood.

On the 19th it was warm enough for an hour or so to allow the bees to fly outside, so we opened the door. Their first movement, after marking their location, was to fly off in a straight line so far that I was afraid they would never come back; but in ten or fifteen minutes all had returned and then they sought their respective corners with a buzz that seemed to say: "There. A fly of four of five miles does a body good."

In January, 1875, on account of pressing business I allowed the bees in the glass house to slumber. On wintry days when the sun did not shine at all they were as quiet as if in the open air, and a part of the time it made very little difference even if the sun did shine; for, with a temperature below zero, the glass was so obscured by frost that very few of the sun's rays could get through. Without any artificial heat at all, and with the sash fastened in a very insecure manner, the bees were only once subjected to a freezing temperature, and then only for a short time, when on January 9 the temperature outside was 18° below zero.

The adjoining underground apartment answered excellently the purpose of modifying the extremes of temperature. I had some extra sash made to be placed at an angle of 45 degrees over the horizontal one, but was unable to get this in place before the cold weather came on. Although the outside air was very near zero on the 17th of January, by artificial heat I filled the air under the glass so full of bees that it seemed as if they never could get back into their hives, yet in the evening I found just four bees remaining on the sash. There was no trace of dysentery and the hives were as clean as in the summer.

I used to spend the greater part of my Sundays with my books and papers in the glass house and on sunny days even the rest of the family found it an agreeable sitting-room. Of course, I did not mean to work with the bees on the Sabbath, yet it must be admitted that it so occurred that the bees, instead of being allowed to rest on the Sabbath, rested six days and on the seventh were expected to turn out and have a flight. If they would not otherwise, I uncovered the hives.

Queens Began to Lay in January

On January 23 I warmed the house in the afternoon and made a search of nearly all the hives for eggs, but found none. I kept the room at a favorable temperature all day the 24th, and the next day was delighted to find that the queens had laid profusely even in the nucleus in the lamp nursery, which contained less than 100 bees with the queen at that time. I decided, therefore, that there could be no difficulty in wintering any number of queens with only a teacupful of bees each by this plan. I was anxious to make a report of brood in the February number of Gleanings; but, though I kept the room warm until the very last minute, not a larva could I see.

On January 28 I looked again and was cheered with the sight of whole patches of larvae. Few of the colonies had any pollen, and some of them positively none. The worst of it was that few of the bees took any notice of the spot where they had worked so industriously in December. They seemed to take their flight close under the glass. On January 31 the sun came out full and clear and by 10 o'clock the room was abundantly warm without any aid from the stove, but they would not notice the meal. Does any one wonder that I rejoiced later in the day when I found the bees as happy as in June, dancing about the heap of meal and then scampering into the hive as fast as their padded legs could carry them? Yet this was a cold wintry day outside and the sun scarcely thawed the snow on the south roofs of the houses. The upper sash had been put in place about the middle of January, but were not closed up warm and secure by any means, still they gave excellent service in keeping the ice from the lower glass and preventing the attendant drip.

On February 1 the sun shone again and brood-rearing was going on beautifully. The only drawback was the bees that blundered about and finally fell on the floor. These I gathered up in the evening and put in the lamp nursey, where they revived, and at least a part of them went through the same program the next day.

Behavior of Bees Exposed to Low Temperature

By February 15 we had been having zero weather for about three days. I was anxious to watch the bees in a cold temperature, so I raised the hive up from the bottom-board, removed the cover and quilt, and subjected the bees to severe cold weather. Although the colony (or, rather, nucleus) contained not more than a quart of bees, they seemed to bear this exposure without detriment. I wanted to see how the bees behaved when it was cold, but, strange to tell, they did not behave at all. They were perfectly still—"as dead as doornails." I examined them by daylight and by

lamplight, but it was all the same. I fixed my eye on a single bee and watched it until my teeth chattered, but it seemed perfectly comfortable on the outside of the cluster. When the temperature became lower, quite a hum came apparently from the center of the cluster, but I could see no movement that should produce this. The bees that were visible did not move their wings and did not change places. I could not see how these bees could get food, and, if they did change about, why I could not have seen at least one in the act of so doing.

During the experiment once or twice a bee would crawl out of the cluster, fly off into the cold and fall down and die. I took a different position and saw the same phenomenon, and from the number of bees scattered about I think it occurred about the same whether the colonies were disturbed or not. A bee that is sick crawls out of the cluster and out of the hive and dies. As most of this dying was in the glass house, I inferred that brood-rearing aggravated the trouble, or, what is more probable, sudden and wide changes of temperature, such as we always have in the spring, were severe on bees as well as on vegetation. The temperature of the glass house varied from 40 to 70 degrees almost daily.

All the colonies had a pretty fair patch of brood in the glass house, but the old bees were dying off so fast I fear the colonies were gaining in strength but little.

The colonies that were in the bee-house, and those that were out all winter, were all in excellent trim March 15, while all but two in the glass house were dead. Colonies no stronger, that were wintered in the bee house, were in beautiful order and none of them showed any disposition to leave their hives in unseasonable weather.

Isn't it funny that, after all my bother about the glass house, I had only just discovered in the spring of 1875 that young bees can be reared in dark winter quarters and have the colonies stronger in number when they came out in the spring than when they were put in in the fall.

By April I had 53 colonies, 11 were lost in the glass-house experiment, two starved, one had dysentery and froze, and one I sold.

MARKETING BUCKWHEAT HONEY

(Continued from page 586.)

by the Empire State Honey Marketing Association. Later this was extended to their salesmen by a single page leaflet on buckwheat honey. An article on buckwheat honey was given wide distribution in Jewish papers. This kind of work can be greatly enlarged.

Honey-producers have already made a good start toward control over their own marketing. Last season the greater part of all the buckwheat honey produced in New York state was marketed through the beekeepers' own association. The name of the association is known to every buckwheat-honey buyer in the East, and most of them were customers last season.

But much remains to be done. There is the problem of grading properly so that honey all of one quality can be shipped directly to the buyer. Some retail buyers prefer light, some dark buckwheat. They must be able to get what they want or they will either use less buckwheat honey or none at all.

I recently called on two Jewish retailers who complained of their honey. One had dark honey. He said it was too dark and too coarse grained. The other had light. He said it was too light and too fine grained! The wholesaler who sold them the honey had to take both lots back. He had bought a large lot of honey supposing it was uniform in color and quantity. The beekeepers will have to be able to distribute their buckwheat honey properly graded, so that those who want light or dark honey get it. The manufacturer or distributor of every other food product does this, and unless the beekeepers do likewise they will find their product discriminated against.

But the main purpose of this article is to point out some of the major problems confronting the distribution of buckwheat honey. The answer lies only in concerted effort on the part of the beekeepers themselves. The wholesalers and retailers will not help him, for they have hundreds of manufacturers pushing their particular products and helping them get sales. Unless the beekeepers see the handwriting on the wall and organize to do likewise, they are bound to see their own article replaced by foods perhaps less desirable, but on which the profit is greater and the sales resistance less.

New York, N. Y.

One of the most attractive exhibits at the World's Fair at Philadelphia in 1876 was one of the first locomotives used in this country, compared with what was then a modern locomotive. It was a great sight. But if we compare the locomotive of 1876 with the latest models we shall find improvements quite as great. The same is true in keeping bees or rearing queens. We may always be improving on the past if we keep our eyes open and try.—J. E. Crane.

Classified Advertisements

Notices will be inserted in the classified columns for 7c per word. You must say you want your advertisement in the classified columns, or we will not be responsible for errors. For special conditions on bee and queen advertising please write us. Copy should be received by 15th of preceding month to insure insertion. Cash with copy if credit has not been established previously.

REGULAR ADVERTISERS DISCONTINUED IN GOOD STANDING

(Temporary advertisers and advertisers of small lots, when discontinued, are not here listed. It is only regular advertisers of regular lines who are here listed when their advertisements are discontinued when they are in good standing.)

Edw. A. Winkler, E. L. Lane, Bee-Dell Apiaries, F. M. Morgan, M. Bates, Sam Hinshaw, Allenville Apiaries, J. F. Diemer, C. A. Mayeux, W. H. Laws, Van's Honey Farms, J. I. Banks O. E. Tulip, Frank Bornhoffer, N. Forehand, E. D. Townsend, J. M. Cutts & Son, Connecticut Valley Apiaries, The Marugg Co., Herman McConnell, M. C. Berry & Co.

HONEY AND WAX FOR SALE

NEW comb honey now ready to ship. H. G. Quirin, Bellevue, Ohio.

FOR SALE—Clover honey in 60-lb. cans. J. F. Moore, Tiffin, Ohio.

NEW crop white clover honey in 60-lb. tin cans. Write for prices. D. R. Townsend, Northstar, Mich.

NEW comb and extracted clover honey. Prices on request. Irvin A. Stoller, Latty, Ohio.

HONEY for sale, any kind, any quantity. The John G. Paton Co., 217 Broadway, New York City.

FOR SALE—100 cases of white clover comb honey graded fancy and No. 1. L. M. Hubbard, Onsted, Mich.

EXTRACTED HONEY FOR SALE—Clover, buckwheat, any kind of package. C. J. Baldridge, Kendaia, N. Y.

FOR SALE—Comb and extracted white clover honey. Prices on request. Dr. E. Kohn & Son, Grover Hill, Ohio.

NOW booking orders NEW CROP extracted clover honey. Write for prices. Sample, 15c. Appeldoorn, Hamler, Ohio.

FOR SALE—Over 50,000 lbs. of very choice white clover honey. Write for prices. J. M. Gingerich, Kalona, Iowa.

FOR SALE—In 60-lb. cans, Alabama sweet clover honey, rich and ripe, 11c per lb. f. o. b. Joe C. Weaver, Cochrane, Ala.

NEW crop white clover honey in new 60-lb. cans, 2 in a case $14.40 case, f. o. b. Oran. Alice D. Burrows, Oran, N. Y.

FOR SALE—Extracted, comb and chunk honey. Prices on request. Sample 15c. F. W. Summerfield, Waterville, Ohio.

FINE QUALITY CLOVER HONEY. Prices upon request. Case or carload lots. C. S. Engle, 1327 23rd St., Sioux City, Iowa

FOR SALE—Choice fancy 1925 crop white clover extracted honey in new 60-lb. cans, 12c per lb. Sample, 10c. Edw. A. Winkler, Joliet, Ill.

FOR SALE—Our fine quality 1925 crop white and sweet clover honey. Case of 120 lbs. 12c per lb. Sample 20c. Martin Carsmoe, Ruthven, Iowa.

SWEET clover honey in 60-lb. cans, $8.00 each; two or more at 13c lb. William Knapp, Cissna Park, Ill.

FOR SALE—Choice white clover extracted honey in 60-lb. cans. Prices on request. Noah Bordner, Holgate, O.

FOR SALE—Clover honey in 60-lb. cans, two in a case 12c per lb. f. o. b. Harry W. Beaver, Troy, Pa.

FOR SALE—Extracted and comb honey. North Dakota Bee Supply Co., 701 Center Ave. Moorhead, Minn.

FOR SALE—Extra fine clover honey in new 60-lb. cans two to the case, at $14.00. Adam Bodenschatz, Lemont, Ill.

FOR SALE—New crop, fine clover comb honey. Priced right for quick sale. Chas. B. Hatton, Andover, Rt. 3, Ohio.

FOR SALE—Choice 1925 crop white clover extracted honey, case of two 60-lb. cans, $15. J. G. Burtis, Marietta, N. Y.

FOR SALE—Fine white clover honey in new 60-lb. cans, 5 and 2½ lb. pails. O. H. Roth, R. F. D. No. 2, Reese, Mich.

FOR SALE—New crop northern Michigan raspberry clover and buckwheat honey. New cans. Sample 15c. C. J. Freeman, Mesick, Mich.

HONEY FOR SALE—New crop finest quality, put up in 60-lb. cans, also 5-lb. pails. Prices on request. W. M. Peacock, Mapleton, Iowa.

WHITE clover honey, new, 60-lb. cans, one to three cases, 12c; 3 cases or more, 11½c per lb. Sample, 20c. Hoehn & Honigford, Ottoville, Ohio.

FOR SALE—New 1925 crop white clover extracted honey in new cans and cases. Write for prices. Sample, 15c. G. A. Gust, Kaukauna, Wis.

NEW crop honey, sweet and white clover mixed, in new 60-lb. cans. Thoroughly ripened. State quantity desired. L. A. Thrall, Anthon, Iowa.

FOR SALE—White clover honey in 60-lb. cans .Thoroughly ripened before extracting. Two cans to the case. Frank Coverdale, Maquoketa, Iowa.

CLOVER and basswood honey blended by the bees. Color white, body fine. Prices upon request. State amount wanted. W. A. Jenkins, Rock Port, Mo.

HONEY—1925 crop extracted white clover, thoroughly ripened, finest quality. Also buckwheat extracted. Ask for prices. Albert Hann, Glen Gardner, N. J.

NEW 1925 "Townsend Quality" extracted honey now ready for the market. New cans and cases. None better. Address E. D. Townsend & Sons, Northstar, Mich.

FOR SALE—Finest white clover honey, ripe and light in color, in new 60-lb. cans and cases. Also 5 and 10 lb. pails. Sample, 15c. A. S. Tedman, Weston, Mich.

FOR SALE—Clover-basswood comb honey, fancy and No. 1 packed 8 cases to carrier, also clover-basswood extracted, in new 60-lb. cans, 2 cans to case. Buckwheat extracted in new 60-lb. cans. Silsbee Apiaries, Bath, N. Y.

HONEY—Free wholesale quotations on 1925 crop of white clover extracted honey in 60-lb. cans, 5 and 10 lb. pails, 3 oz., 8 oz. and 17 oz. tumblers. Also white comb and buckwheat comb and extracted. Roscoe F. Wixson, Sales Dept., Dundee, N. Y.

FOR SALE—Sweet clover and white clover honey in 60-lb. cans. White to water-white in color and heavy body. Beekeepers who need honey for their trade and solicitors, write for prices. The A. I. Root Company of Iowa, Council Bluffs, Iowa.

FOR SALE—Extra quality clover extracted, $7.80 per can. Two or more, $7.20. No. 1 clover comb, $5.50 per case. Four or more, $5.00. Satisfaction guaranteed. F. W. Lesser, Fayetteville, N. Y.

RASPBERRY HONEY left with the bees until thoroughly ripe. Is thick, rich and delicious, unexcelled for table use. In new 60-lb. cans, 15c a lb. 10-lb. cans by mail, postpaid, for $2.50 each. Sample by mail, 15c. Elmer Hutchinson & Son, Lake City, Mich.

HONEY FOR SALE in 60-lb. cans: Clover 13c lb.; white orange, 16c lb., both crystallized; if liquefied, add 1c lb. Also Southern amber, 11c lb.; southern light amber, 12c per lb., and Florida white tupelo, 16c lb. These three grades all liquefied and f. o. b. New York City for immediate shipment. Hoffman & Hauck, Inc., Ozone Park, N. Y.

HONEY FOR SALE—For the beekeepers whose supply may be short this season. We have the choicest extra quality sweet clover, fine white clover, alfalfa, some mesquite and a limited amount of orange that we can offer our friend honey-sellers who may be short. Also comb, all grades. Write for prices. The A. I. Root Co., Medina, Ohio.

OUR water-white, new crop clover honey is now ready for sale. This honey is sweet clover blended with little Dutch white clover. Price, 10½c, f. o. b. Moville, Iowa. This honey is packed in good used cans, 120 lbs. to the case. Please do not write for lower prices. Cash must accompany all orders. We guarantee this honey to be as described. Weaver & Son, Moville, Iowa.

HONEY AND WAX WANTED

WANTED—Comb and extracted. J. E. Harris, Box 178, Morristown, Tenn.

WANTED—White clover comb honey. Glass-front case preferred. E. W. Peirce 345 Cliffwood Ave., Zanesville, Ohio.

WANTED—Honey, comb and extracted, in ton or less lots. State quantity, grade and price. W. I. Boggs, De Soto, Mo.

WANTED—Honey in ton lots or more. Mail sample and quote lowest price. C. J. Morrison, 1235 Lincoln Way West, South Bend, Ind.

BEESWAX WANTED — Highest market prices paid. Cash or in exchange for supplies. Write us for quotation before shipping elsewhere. The A. I. Root Company, Medina, Ohio.

WANTED—Shipments of old comb and cappings for rendering. We pay the highest cash and trade prices, charging but 5c a pound for wax rendered. The Fred W. Muth Co., Pearl and Walnut Sts., Cincinnati, Ohio.

WANTED—A car or less quantity of clover honey in 60-lb. cans. Mail sample and quote lowest cash price for same; also send for my cut price circular on cans and pails for honey containers. A. W. Smith, Birmingham, Mich.

FOR SALE

MAKE queen introduction SURE. ONE SAFIN cage by mail, 25c; five for $1.00. Allen Latham, Norwichtown, Conn.

FOR SALE—Modified Dadant hives and supers in good condition. All equipment is guaranteed to be free from disease. William Larsen, Quinnesec Mich.

TWO 2-frame Root reversible extractors in perfect condition; five gross honey jars, Duplex caps; 230 pint tin cans; uncapping knives and other equipment. Write for prices. J. Nordstrom, Gallitzin, Pa.

Auto trailer. 20 quadruple winter cases. Bees and equipment, all 10-frame standard Root goods. Bees and material guaranteed free from disease. Very reasonable. Emil Tappert, 4055 N. Kenneth Ave., Chicago, Ill.

FOR SALE—Good second-hand 60-lb. cans, two cans to a case boxed. We have large stocks of these on hand. Please write for prices if interested. We are offering only good cans and good cases. C. H. W. Weber & Co., Cincinnati, Ohio.

WANTS AND EXCHANGES

WANTED—Two-frame reversible extractor in good condition. Clarence Travis, Milford, Mich.

BEESWAX WANTED—We are now paying unusually high prices for beeswax and are ready to quote you prices f. o. b. your station or ours. Do not fail to get our prices before selling or shipping your beeswax. Dadant & Sons, Hamilton Ill.

BEES AND QUEENS

WHOLE colonies of bees, if advertised for sale in these columns, must either be guaranteed free from disease, or, if not so guaranteed, the exact condition of the bees and the conditions of sale must be clearly stated in the advertisement; or, it will be satisfactory if the advertiser will agree to furnish a certificate of health from some authorized bee inspector at time of sale.

HARDY Italian queens, $1.00 each. W. G. Lauver, Middletown, Pa.

CANS, bright 60-lb. cans, 60c for case of two. A. V. Small, Augusta, Kans.

WHEN IT'S GOLDEN, IT'S PHELPS. C. W. Phelps & Son, Binghamton, N. Y.

CITRONELLE QUEENS, 50c each. See our large advertisement on page 616. Citronelle Apiaries, Citronelle, Ala.

WARRANTED pure mated Italian queens, $1.00 each, by return mail. 10 per cent off on 10 or more. Daniel Danielsen, Brush, Colo.

LEATHER-COLORED Italian queens, $2.00 until June 1; after, $1.00; tested, $2.00. A. W. Yates, 15 Chapman St., Hartford, Conn.

THREE-BAND ITALIAN QUEENS. 1 select untested, $1.00; 12 select untested, $10.00; 1 select tested, $1.50. J. Allen, Catherine, Ala.

BRIGHT Italian queens, 1, $1.00; 12, $10.00; 100, $75.00. Write for prices on package bees. T. J. Talley, Greenville, R. F. D. No. 3, Ala.

FOR SALE — Untested Golden Italian queens. Ask for special prices on queens for August and September. J. F. Michael, R. F. D. No. 1, Winchester, Ind.

SHE-SUITS-ME queens. Untested 3-banders, $1.00 each; 25 or more ordered in advance, 75c each. Safin cage with initial order. Allen Latham, Norwichtown, Conn.

GOLDEN ITALIAN queens, producing large beautiful bees, solid yellow to tip. Package bees, nuclei circular, 1925 ready, free. Dr. White Bee Co., Sandia, Texas.

LISTEN—To every new customer answering this advertisement we will sell two of our famous Italian queens at half price. Two for $1.00. Carolina Bee Co., Graham, N. Car.

GOLDEN ITALIAN queens for sale, 1, $1.00; 6, $5.00; 12, $10.00; 100, $75.00. Package bees in season, 20 per cent to book your order for spring delivery. J. F. Rogers, Greenville, R. F. D. No. 3, Ala.

WILL sell our three-banded "Autauga" Italian queens for 50c each as long as they last. Closing queen yards for this season. Autauga Apiaries, Autaugaville, Alabama.

FOR SALE—100 colonies Italian bees and apiary equipment in good condition. Certificate of health from bee inspector. Robert G. Moon, Cottam, Ont., Can.

FOR SALE—50 colonies of fine three-band Italian bees with young queens in Root 10-frame Standard hives. Guaranteed free from disease. Noah Bordner, Holgate, O.

BRIGHT American Beauty Italian queens and bees. Untested queens, $1.00, 3 or more, 75c each; $8.00 a dozen. Three-frame nuclei, $5.00. Guarantee safe arrival. Tupelo Apiaries, J. L. Morgan, Apalachicola, Fla.

AGAIN our northern-bred leather-colored Italian bees have wintered fine, and we guarantee that no disease exists in our yards. Queens after June 15, $1.25 each; $12.00 per doz. Charles Stewart, Johnstown, N. Y.

SUPERIOR ITALIAN QUEENS BY RETURN MAIL. ANY QUANTITY. 50c EACH. Guarantee safe arrival, satisfaction, no disease ship only the best. Queens to please or your money back. W. C. Smith & Co., Calhoun, Ala.

HOLLOPETER'S Italians bred for business. We can still give prompt service. Selected stock, safe arrival and satisfaction guaranteed. September prices: Untested, each $1.00; six, $5.00; ten, $8.00. J. B. Hollopeter, Rockton, Pa.

IF you want good bright Italian queens by return mail, send your order to us. Queens, 75c each; $8.50 per dozen; one pound of bees, with queen, $3.00; two pounds of bees, with queen, $4.75. We pay charges. Graydon Bros., R. F. D. No. 4, Greenville, Ala.

GOLDEN Italian Queens for 1925, the big, bright hustling kind (the kind that gets the honey). Satisfied customers everywhere. Untested, 90c each; 6 for $4.50; 12, $9.00; 100, $70.00. Tested, $1.50 each. Safe arrival guaranteed. E. F. Day, Honoraville, Ala.

GOLDEN ITALIAN QUEENS—Untested, $1.00; 6 for $5.40; 12 or more, 80c each. Tested, $1.50; select tested, $2.50. Apiary inspected by state inspector; no disease found. Safe arrival and satisfaction guaranteed. D. T. Gaster, R. F. D. No. 2, Randleman, N. C.

FOR SALE—Golden Italians bred for all the good qualities bees should possess as well as for color. Queens only. Untested, $1.00 each; 6 for $5.25; 12 or more, 75c each. Postpaid and safe arrival insured. State certificate of health included. Hazel V. Bonkemeyer, Randleman, R. F. D. No. 2, N. C.

FOR SALE—Three-band Italian queens that produce hardy and gentle bees, the kind that get the honey. Untested, 80c each; 6 for $4.75; 12, $9.00. Tested queens, $1.50 each. Queens in larger lots for requeening, write for prices. Safe arrival and satisfaction guaranteed. Robt. B. Spicer, Wharton, N. J.

FOR SALE—60 colonies bees, guaranteed free from disease, in standard hives for comb and extracted honey, with all equipment. Also, if wanted, honey-house, 5-room dwelling house, barn and 5 acres irrigated land, horse, chickens and cows. All in the South San Joaquin Irrigation District. Thomas Olsen, Escalon, California.

FOR SALE—Choice bright Italian queens. I have been building up this strain for the last 21 years for vigorous hustlers, good winterers gentleness and fine color. These queens will equal the best on the market. Health certificates go with queens. Prices: 1 untested queen, $1.25; 12 untested queens, $12.00; 1 breeder, $5.00. Emil W. Gutekunst, Colden, N. Y.

FOR SALE—100 colonies three-band Italian bees in 10-frame Root hives, also 100 colonies in 8-frame hives. Guaranteed free from disease. Inspected in July. Silsbee Apiaries, Bath, N. Y.

FOR SALE—Seven colonies bees in Standard ten-frame Root hives, two extra supers for comb honey with each hive, and other equipment. Guaranteed free from disease. Geo. W. Neff, 2517 S. 2nd St., Steelton, Pa.

FOR SALE—700 colonies of bees, big extracting honey outfit in 8 yards. A little disease, 10 acres of land, 8 lots, 8-room home, 2-car garage, honey-house. Buildings all new. Excellent location and healthy climate. If you have the money to swing a big deal come and look this over. Will sell including honey crop or without. E. W. Fox, Fruitdale, S. D.

PHELPS' FAMOUS GOLDENS, an opportunity to try them at $1.00 each. For the first time since before the war we have kept ahead of orders, due to an exceptional queen-rearing year in this locality and a new partner—Mrs. Treadwell of Windsor—who likes the GOLDENS and is as interested as we are in producing the best queens. C. W. Phelps & Son, Binghamton, N. Y.

ITALIAN QUEENS—After 14 years of careful selection and breeding we have produced a strain of three-banded Italians that are superior to many. The gentle kind. Am breeding from the colony that produced eight complete ten-frame supers of fancy comb honey in 1924 without swarming. Am offering this strain at the following prices: Untested, 1, $1.00; 12, $10.00; 100, $85.00; tested, $1.50 each. Breeders, $5.00 each. Never had disease. Geo. Morrison, Box 65, Mandale, Ohio.

PRICES REDUCED—We have reduced our prices on our famous red-clover strain of three-band Italians. Our queens have given universal satisfaction since they have been on the market. Repeated high-production records prove their superiority. 1 untested, 80c; 12 or more, 75c each; 100 or more, 65c each. No disease, safe arrival, and satisfaction guaranteed. GIVE OUR QUEENS A TRIAL. THEY MUST MAKE GOOD OR WE WILL. Write for circular. J. M. Cutts & Son, R. F. D. No. 1, Montgomery, Ala.

MISCELLANEOUS

THE BEE WORLD—The leading bee journal in Britain and the only international bee-review in existence. It is read, re-read, and treasured. Will it not appeal to you? Specimen copy free from the publishers. Send us a postcard today. It is well worth your little trouble. The Apis Club, Benson, Oxon, England.

SITUATION WANTED

SITUATION with experienced beekeeper as helper. Have three years' experience. Work for $20.00 per month. Prefer South. L. R. Marsalek, Cadams, Nebraska.

YOUNG married man desires position. Experienced beekeeper educated. Reference Howard G. Stiles, Rt. No. 4, Geneva, Ohio.

50c--Italian Queens--50c

In order to gain more customers for our HIGH GRADE ITALIAN BEES and QUEENS we are offering them at 50c each, one or one hundred.

J. J. SCOTT, CROWVILLE, LA.

BeeWise!

USE HA STANDARD HONEY JARS

Four Packages in Convenient Sizes

Individual
Half Pound
One Pound
Two Pound

GRADUATIONS ACCURATE

The Universal Package

DISTRIBUTORS

The A. I. Root Company, Medina, Ohio
Hoffman & Hauck, 1331 Ocean Avenue, Woodhaven, N. Y.
A. G. Woodman Co., Scribner Avenue and Blumrich Street, Grand Rapids, Mich.
The A. I. Root Company of Iowa, Council Bluffs, Iowa

HAZEL ATLAS GLASS CO.

DESIGNERS AND MANUFACTURERS
WHEELING, W. VA.

(Continued from page 569.)

From Producers' Associations

TORONTO—Ontario honey crop has improved very materially since July 1, and we are now looking for a fair crop of good quality honey which will be somewhat larger than 1924 and smaller than 1923. Our 1925 prices will be arrived at shortly, when the crop report committee meets. We are looking for fair marketing conditions throughout Canada this year. Ontario Honey Producers' Co-op., Ltd.
A. G. Halstead, Gen. Mgr.

Special Foreign Quotations

LIVERPOOL—We regret we are unable to report any encouraging symptoms in this market. Business has been both very slow and erratic. Transactions in extracted honey, however, have been made at the equivalent of 12-12½c in American currency. There has been a fairly steady market for beeswax at about the same prices as mentioned in our last letter, namely, about 40c per lb. Taylor & Co.
Liverpool, Eng., Aug. 5.

The A. I. Root Company's Report

Since July 20 we have received one car of extracted sweet clover and alfalfa honey from Colorado, for which we paid 8½c per lb., f. o. b. shipping point; one car from Wyoming at 8½c per pound f. o. b. Wyoming common shipping point, and two cars of light amber mesquite from Arizona which cost us 7½c per pound f. o. b. Arizona shipping point.

TOO LATE FOR CLASSIFICATION

COMB and extracted honey—none finer. H. J. Walters, Burgoon, Ohio.

FOR SALE—Well ripened clover honey in 160-lb. kegs. Julian Root, Jordan, N. Y.

NEW 1925 crop extracted clover honey, thoroughly ripened, finest quality. No disease. In new cans and cases, 120 lbs. to case. Prices on request. Harry C. Kirk, Armstrong, Iowa.

Citronelle Queens

30,000

Hives of bees headed with Citronelle Queens in U. S. and Canada. They are good. Ask your neighbor beekeeper about them.

Prices:

Untested Queens, any number . . . **50c ea.**
Select Untessed, any number . . . **60c ea.**
Tested, any number . **$1.00 ea.**

Satisfaction and prompt service guaranteed.

Citronelle Apiaries
Citronelle, Alabama

KITSELMAN FENCE

'Saved About $15,' says L. M. Boswell, Jamestown, N. Y. **You, too, can save** by buying direct at Lowest Factory Prices. **WE PAY THE FREIGHT.** Write today for Free Catalog of Farm, Poultry and Lawn Fence, Gates, Steel Posts and Barbed Wire.
KITSELMAN BROS., Dept. 21 MUNCIE, IND.

AGENTS $72 a WEEK

Wonder lamp of age. For use in every home. **300 Candle Power.** Brilliant, white light—soft, restful to eyes. Equals safety, brilliancy of electricity, 1-10th the cost. 20 times brighter than wick lamps. More healthful. Easy to operate. No smoke. No soot. No odor. Low priced. Guaranteed.

FREE Outfit to workers. New plan starts you without capital. Full or spare time. No experience needed. Profits start first day. Vivian, Minn. made $400 in 30 days. You can do as well. No charge for territory. Write for **Free Outfit Offer.**
AKRON LAMP CO. 2489 Lamp Bldg. Akron, O.

NEWMAN'S QUEENS

are absolutely first quality and fully guaranteed. Satisfaction and safe arrival. Untested, $1.00; 6, $5.00; 12, $9.00. Select Untested $1.25; 6, $6.00; 12, $11.00. Circular free.
A. H. Newman, Queen-breeder, Morgan, Ky.

Three-Banded Leather-Colored

Italian queens. Untested, balance of season, 90c each; 6 for $4.75; 12 for $9.00, or 100 for $65.00. I guarantee pure mating, safe arrival, and satisfaction.
G. A. TAYLOR, BOX 9, LUVERNE, ALA.

Mott's Northern-bred Italian Queens

Select untested, till June 1: $1.25; $1.00 each thereafter. Select, guaranteed pure-mated, $1.25 each. Select tested, $2.00. Virgins, 50c. No disease. Satisfaction and safe arrival guaranteed. Canada borders Michigan on the east and north. Save long trips. All selected stock.

E. E. Mott, Glenwood, Mich.

—QUEENS OF—

Moore's Strain

OF ITALIANS PRODUCE WORKERS
That fill the supers quick
With honey nice and thick.

They have won a world-wide reputation for honey-gathering, hardiness, gentleness, etc.
Untested queens, $1.00; 6, $5.00; 12 $9.00. Select Untested, $1.25; 6, $6.00; 12, $11.00. Safe arrival and satisfaction guaranteed. Circular free.
J. P. MOORE, QUEEN BREEDER,
Route 1, Morgan Kentucky.

SOUR HONEY DEPT.

My careful thought out arrangements for the next step in breedin my extry hardy hunger-winter resistant strain of bees are goin steadily forwards. I aint a sleep on this all important subject, so I aint. The work now is mostly mentle and plannin. As I said afore I am headed strait for an easy-to-keep strain of bees givin more time to fishin and coon huntin. My present preparashuns is for packin which will be corn stalks from my garden sweet corn, easy applied and quick. This is a form of coddlin I dont approve either but it is only leadin up to a perfected strain as will winter in a single walled hive just like a top and be gatherin fruit bloom nectar when Jack Deyell and Demuth will be a-coaxin their staggerin enervationed bees along with sugar syrup or a food story kadingus and wonderin if they will get around to do anythin by June 15 or 16. Yes sir cornstalks is my quadruple packin case for next winter and all these beekeepin smart Alecs have got a second think comin when next spring comes and they see my bees then. They wont have a coon skin all this winter either, nor catch a October bass. I

(Continued on page 619.)

"Honey Girl" Queens 100 for $80.00

When you need a queen that is a queen, order a "Honey Girl" Italian Queen. Value of orders delivered and booked in advance for delivery before July 1st is more than double the value of sales for whole season of 1924. We wish to thank our friends for their valued orders and kind recommendations.

Price List: Untested, 1, $1.25; 10, $10; 50, $45.00; 100, $80.00; 250 or more, 75c each. Select untested, add 10c per queen. Tested queen, $2.00; select tested, $5.00.

Honey Girl Apiaries, Hamburg, La.

RUSSELL'S SUPERIOR QUALITY QUEENS

As we have discovered the secret of mating queens to choice drones, we believe we are justified in saying "SUPERIOR QUALITY" QUEENS. 25 years' experimenting has brought us to the position where we can give you the very best obtainable in three-band bees. No order too large, none too small. Guarantee safe delivery. Free from disease. We never had a diseased colony in our yards.

Queens, $1.00 each; three, $2.00; $8.00 a dozen; $65.00 per 100.

The Russells' hives are crowded,
The Russels' hives are jammed.
The bees that fill the supers
Are from the F. M. Russell strain.

F. M. Russell Co., Roxbury, Ohio

Carniolans

carefully bred show the following desirable traits to a high degree: They are very gentle, very prolific at all times, build very white combs, are most excellent workers resist brood diseases as well as any bee and do not swarm excessively if intelligently managed. My paper, "MERITS OF THE CARNIOLAN BEE," describes Carniolans more fully and outlines successful plans of managing these bees. Free for the asking.

I supply Carniolans of my own strain, 13 years selection and breeding, and the Jan Strgar and M. Ambrozic imported strains. Breeders imported 1924.

ITALIANS

I am rearing Italian queens 12 miles from Carniolans, C. B. Hamilton strain. The mother of this breeder produced 577 sections of comb honey.

1 untested queen, Carniolan or Italian..$ 1.10
12 untested queens, Carniolan or Italian 12.00
Tested queens, Carniolan or Italian..... 2.25

Queens reared in August and September during the buckwheat flow are the very finest. September is a good time to put in some Carniolans to try out next season. Safe arrival in the United States and satisfaction guaranteed.

ALBERT G. HANN
GLEN GARDNER, NEW JERSEY.

Scott Queens

During August and September we will furnish queens of our excellent stock at $1.00 each. Every queen of good appearance and laying well before shipping.

The Scott Apiaries, La Grange, Ind.

Thrifty Queens 50c ea.

IN LOTS OF 10 OR OVER.
SMALLER LOTS, 60c EACH.

Safe arrival and satisfaction guaranteed in the U. S. and Canada.

Thirty-three years of careful breeding assures you of good queens.

W. J. Forehand & Sons
FORT DEPOSIT, ALA.

Achord Queens

Splendid honey-producing Italians. Reared in one of the largest, best-equipped queen-rearing and package-shipping establishments in the South.

Select young laying queens, untested, 75c each, any number. Tested queens, $1.50 each, any number.

Promptly mailed to you in large mailing cages with 1925 inspection certificate. Safe arrival guaranteed.

W. D. Achord

Fitzpatrick - - - Alabama

Queens, 50 cents each

6 for $2.95 12 for $5.90

Dependable, reliable

Three-banded Italian Queens

G. H. Merrill Apiaries, Piedmont, S. C.

Big, Bright Northern-bred Italian Queens

Bred for beauty, gentleness, and honey-gathering qualities. Delivery begins June 1. Untested, $1.00 each.

M. P. LeMUNYON, R. D. 3, Cassopolis, Mich.

Last Call

WE WANT TO THANK OUR CUSTOMERS for their liberal patronage again this season, and have you feel that in rendering you exceptionally good service has been our greatest satisfaction.

This **LAST CALL** is being made to you to hurry along your orders large or small. We still have as good queens as in August, and our nuclei are well stocked; but we desire to unite as many as possible before cold weather sets in and while we ship queens as late as November, we cannot guarantee prompt shipment on large orders longer than to October 15.

I guarantee prompt shipment and safe arrival of pure mated, carefully selected, disease-free stock at the following prices: Untested Three-band Italians, each, $1.00; six, $5; ten or more, 80c each.

J. B. HOLLOPETER

ROCKTON, PA.

ITALIAN QUEENS 60c each

From now until Oct. 15. Reared in one of the best equipped queen-rearing apiaries in the South. Complete satisfaction in every way guaranteed. Order early.

Crenshaw County Apiaries RUTLEDGE, ALABAMA.

GOLDEN QUEENS AND THREE-BANDED BEES FOR 1925

Untested queens, $1.00 each. Tested, $1.50 each. 2-lb. package of bees, $3.00; 3-lb. package of bees, $4.50; nucleus, $1.50 per frame. Additional pound of bees with nucleus, $1.00. No disease; safe arrival guaranteed; bees inspected; never had disease.

J. W. SHERMAN VALDOSTA, GEORGIA

LOCKHART'S SILVER-GRAY CARNIOLANS

Forty-two years of experience breeding this wonderful race of bees; 38 years a breeder and importer of queens. They are very hardy gentle, prolific, great workers and builders of very white comb; use mostly wax in place of propolis. Not inclined to rob like Italians; winter extra well and build up quickly in spring. Prices of queens for July to November: Untested queens, $1.00; 6, 95c each; 12, 90c each; 25, 80c each; 50 or more, 75c each. Select Untested Queens, $1.50 each; 6, $1.45 each; 12, $1.40 each; 25, $1.25 each; 50 or more, $1.00 each. Tested Queens, $3.00 each. Select Tested, $5.00. Breeders, $10.00 to $25.00. Safe arrival and satisfaction guaranteed in U. S. and Canada. No foul brood here.

F. A. LOCKHART & CO., LAKE GEORGE, NEW YORK

(Continued from page 617.)

can hardly keep from laughin now about how I'll have Demuth and Jack Deyell and Mel Pritchard standin on their heads next spring. I aint had only one discouragement in my present preparashuns for winterin. I told my wife my cornstalk plan and she didn't seem enthooziastic. I was just starting fishin with Ab Lutz at the time and told her so as to have her see I was mently workin hard for our common welfare all the time I was fishin, and just as Ab and I was goin out the gate she says there is plenty of weeds in the garden as dont you think will stand up stancher and higher than the corn and there's more of em too. She said it sarcastic like, and Ab says you can't do it by tryin to tell em pleasant things when you are startin fishin, and the best way allays to get away fishin is to get away inconspicuous and quiet. But I aint discouraged a bit. I am on the straight highway to a hungerwinter resistant strain of bees as will make Mel Pritchard and Demuth and Jay Smith bite 'emselves, so I am. And I got my coon dog home now on a fursharin basis too and October bass fishin is just ahead and I am all right and settin pretty as far as I see now.

* * *

I see J. L. Byer of Markham, Canady, is advertisin silver foxes in Gleanins. That's a bizness as is appealin to me. He says ordnary intelligents and a small amount of time needed to care for em. That's me. I may have some more intelligents as is needed but I dont have to use it all and the small amount of time needed hits me where I live exactly. So I am goin in partnership with Mr. Byer as his U. S. representative. All I ask is for him to furnish the first foxes for stock and the fencin necessary and we will go halves and I will be his representative. That's a fair deal and I guarantee it as he asks in his ad. The personal references he wants I will talk to

(Continued on page 621.)

Queens That Are Queens

ITALIANS

We have them and are now prepared to offer them to the beekeepers in quantity lots. We have been producing large crops of honey for 25 years and have reared thousands of queens and have stock that we believe is excelled by none. Try one or a dozen and you will want more. They get the honey. We want to show you.

1	select untested queen	$ 1.00
6	select untested queens	5.40
12	select untested queens	10.20
1	select tested queen	1.75
6	select tested queens	9.00

Queens shipped from Sumterville, Ala.

——Address——

DAVID RUNNING

Filion, Michigan, or Sumterville, Ala.

60c each

Good Three-Band Untested Queens at 60c each, any number for month of September. Good-quality tested, $1.50 each

D. W. Howell, Shellman, Ga.

GOOD STOCK is the first essential to Profitable Honey Production. After using every precaution to "Breed from the Best" we are even more particular that our Queens are

BRED RIGHT—for when queens are not bred right they are not as good as a two-year-old queen that has produced two crops of honey. One customer after using 400 queens writes: "I like your queens very much and may order more later." In addition to these essentials, our queens are

SHIPPED RIGHT—So far I have replaced only one dead queen this season shipped east of the Rocky Mountains. I believe this sets a world record for delivering queens. Be sure to give me a trial before the season is over.

Prices: 50 cents each, any number

HIGH-GRADE THREE-BANDED ITALIANS ONLY

JOHN C. HOGG, RAMER, ALABAMA

Honey Containers

5-lb. friction-top pails, per case of 12	$1.10
10-lb. friction-top pails, per case of 6	.90
5-lb. friction-top pails, per carton of 50	3.50
10-lb. friction-top pails, per carton of 50	5.00
60-lb. square cans, per case of 2 cans	1.25
60-lb. square cans, in bulk, each	.40
16-oz. round glass jars, per case of 24	1.25
6½-oz. tin-top tumblers, per case of 48	1.60

All above prices are F. O. B. Boyd, Wis.

Write for our prices on comb-honey shipping cases.

AUGUST LOTZ COMPANY
BOYD, WISCONSIN.

HONEY PAILS

MANUFACTURERS OF
"BLOSSOM-SWEET"
AND
BADGER BRAND
5 and 10 lb. Honey Pails.

We specialize in 5 and 10 lb. round pails and 60 lb. square cans. Plain and Lithographed cans of all descriptions.

WILKES-BARRE CAN CO.
ESTABLISHED 1856
WILKES-BARRE, PENNA.

Patents Practice in Patent Office and Court. Pat. Counsel of The A. I. Root Co.
CHAS. J. WILLIAMSON,
McLachlan Bldg., Washington, D.C.

Write for Book Today

FARM WAGONS

High or low wheels—steel or wood—wide or narrow tires. Steel or wood wheels to fit any running gear. Wagon parts of all kinds. Write today for free catalog illustrated in colors.
ELECTRIC WHEEL CO., 23 Elm Street, Quincy, Ill.

World's Best Roofing
at Factory Prices
"Reo" Cluster Metal Shingles, V-Crimp, Corrugated, Standing Seam, Painted or Galvanized Roofings, Sidings, Wallboard, Paints, etc., direct to you at Rock-Bottom Factory Prices. Save money—get better quality and lasting satisfaction.
Edwards "Reo" Metal Shingles
have great durability—many customers report 15 and 20 years' service. Guaranteed fire and lightning proof.
Free Roofing Book
Get our wonderfully low prices and free samples. We sell direct to you and save you all in-between dealer's profits. Ask for Book No 183
LOW PRICED GARAGES
Lowest prices on Ready-Made Fire-Proof Steel Garages. Set up any place. Send postal for Garage Book, showing styles.
THE EDWARDS MFG. CO.
933-983 Butler St. Cincinnati, O.
FREE
Samples & Roofing Book

New England

Beekeepers will find a full line of supplies here.

We can save you time and money, and solicit your orders.

Send for new catalog.

H. H. JEPSON
237 Park St. Medford 55, Mass.

Root QUALITY BEE SUPPLIES

We carry in stock carloads of bee supplies so we can give the best kind of service.

North Dakota Bee Supply Co.
Fargo, No. Dak.

(Continued from page 619.)

him about private. I aint a wantin him to come on and talk to everybody around here promiscous. I have been misunderstood in some coon dog dealins more or less, and Mr. Byer might get a wrong notion of me from some people. But I can fix that up. So as soon as Mr. Byer sends the foxes and the fencin, I am ready to furnish Byer foxes to anybody in the U. S. Send in your orders and send the pay to me and not to Byer direct.

* * *

Mr. A. H. Schmidt of Hugo, Minn., writes as follows and to wit:

"I would like to give some advice to that skunk tamer (Mel Pritchard he means) if he is still in the business, and that is, don't take any stock in your dreams. I heard about a feller who did that. It happened in this wise: He gave his best girl a black fur piece. It cost so much money he just had to marry it back—with the girl, of course. One day the fur disappeared without the girl, which was

(Continued on page 623.)

NEW CATALOG READY

BEEKEEPERS' SUPPLIES

Root's Goods of High Quality

Three ply foundation, standard stock of supplies kept on hand for prompt shipment. Send us your inquiries and orders early for quick action.

J. NEBEL & SON SUPPLY CO.

Montgomery County High Hill, Missouri

To New York State Beekeepers

Have you received our descriptive price list on HONEY CONTAINERS? We have a good stock of everything needed to market your honey in the most up-to-date manner—display and corrugated shipping cases, cartons for comb honey, all kinds of honey pails and cans.

Write for our prices

A. I. Root Co. of Syracuse

1631 West Genesee St.

SYRACUSE, N. Y.

Serves You Best

Honey Wanted

We are ready at any time of the year to take in small or large lots of extracted honey. Send us a sample and advise quantity you have and the price wanted.

HOFFMAN & HAUCK, OZONE PARK, N. Y.

Glass and Tin Honey Packages

F. O. B. Chicago and Points East.

5-lb. friction-top pails.....per 100, $7.00; per 200, $13.00; per 500, $30.00
10-lb. friction-top pails.....per 100, $10.00; per 200, $19.00; per 500, $45.00

F. O. B. Chicago and Detroit

60-lb. cans, cases of two.....per 10, $10.00; per 25, $25.00; per 100, $95.00

F. O. B. Grand Rapids

½-lb. glass jars.....per 2 doz. case, $1.00; 10 cases $ 9.50
1-lb. glass jars.....per 2 doz. case. $1.25; 10 cases, $12.00

Prices on tin packages from Grand Rapids and glass jars direct from manufacturers, made on request. Complete line of cases for comb honey, honey cartons, labels, paste, etc. Send for list.

A. G. Woodman Co., Grand Rapids, Mich.

Requeen with

Knight's

Line-bred Three-banded Leather-colored Italians

They are the best honey-gatherers and best winterers. Select young laying queens, $1.00 each; 5 for 80c each; 10 or more, 75c each. Select tested queens, $1.50 each. All queens sent in large 6-hole comfortable cages with 1925 health certificate. Pure mating and safe arrival guaranteed.

Jasper Knight
HAYNEVILLE, ALABAMA

Queens

Pure Three-Banded Italians, Bred for Business

Heed the usual autumn warning. Don't let a single colony go into winter without a first-class queen. This is our last ad this season, but we will be prepared to furnish you the very best queens, by return mail, just as late as you can use them. Several sources of nectar make conditions ideal for fall queen-rearing. Prices as follows:

Untested, 50c each (choice queens only). Select Untested, 65c. Tested, $1.00 each.

No disease, pure mating, safe arrival, and satisfaction guaranteed.

Jensen's Apiaries
CRAWFORD, MISS.

Leininger's Strain of Italians

We have been queen-breeders for nearly 50 years. In all this time we have tested nearly every strain of Italian bees in the U. S. A. By this careful selection and breeding we have succeeded in producing a strain of bees surpassed by none but superior to many, bees that are gentle and great honey-gatherers.

Therefore if you buy queens from us you may be assured that back of them are nearly 50 years of careful breeding for the production of honey.

As we are located in a red-clover belt, it is but natural that our bees should have a long-tongue reach.

We will sell queens from this superior strain as follows: Untested, 1 to 5, $1.00 each; 6, $5.50; 12, $10.50; 100, $85.00. Tested $1.50 each; select breeders, $5.00 to $10 each.

Safe arrival and satisfaction guaranteed.

Fred Leininger & Son, Delphos, Ohio

Norman Bros.' Queens--- 50c ea.

By Return Mail---Any Number . . . . . .

Mr. Beekeeper, at this low price can you afford to let a single colony go into winter quarters with an inferior queen? Now is your time to requeen while we are offering you good No. 1 first-class untested queens at half price. These queens are the same high quality that have been sent out throughout the season, and we guarantee every queen we ship to give entire satisfaction, pure mating, safe arrival, and free from diseases in U. S. A. and Canada.

NORMAN BROS.' APIARIES -:- NAFTEL, ALABAMA

(Continued from page 621.)

his wife. It worried him for months, but it was gone. About a year after he had a dream in which he saw the fur under his granary. But he didn't put any stock in it then. But he saw it again the next night in the same place. So in the morning he went straight for the granary, took a look, and sure enough there was that black fur. He just dropped down and made one grab for it. The fur got away, but he had to bury his clothes. Now, I tell you, don't take any stock in dreams.

"If you don't do something to stop that Ernie Root from telling the innocent public how honest beekeepers are some of us fellows will have to reform. I tell you it gets on my nerves something fierce. If I was you I would cut that load of slab wood of his all to pieces. You see if you can keep him from exercising one way or another.

"Fishing is poor here because all the fish that bite are those that some other fellow has caught."

Well, Mr. Schmidt, Mel Pritchard cant be kept away from skunks any more than Ernie Root could be haltered and led up to a uncut slab pile. No sir. Those two fellows are bullet proof agin reformashun as to skunks and wood sawin both of em. As for E. R. tellin about the honesty of beekeepers I like it. I am one of that great army of good men and women myself. OLD DRONE.

Letterheads & Envelopes
The A. I. Root Company
MEDINA, OHIO.

Special for September

Selected Three-Banded Italian Queens, 65 cents each; 10 or more, 60 cents each. Sel. Tested Queens, $1.25 each.

Strengthen your weak colonies for winter with package bees. Increase your apiary with packages.

1-lb .packages with untested queen, $2.75 per package. 2-lb. packages with untested queen, $4.25 per package. Transportation charges prepaid to destination.

Hayneville Apiary Co.
HAYNEVILLE, ALA.

Hutzelman's Solution

Has stood the severest tests during the past four years

The Alcohol-Formalin Solution has passed tests where water-formalin solution and other water solutions have frequently failed, because they do not always penetrate sealed larvae. Water will not penetrate propolis.

The cost of Alcohol-Formalin is a small part of the treatment. Only one recurrence after using water-formalin may be enough to offset the extra cost of alcohol-formalin many times over.

Save your infected combs by disinfecting with

Hutzelman's Solution

Patented Oct. 14, 1924

This patent covers ALL solutions containing formalin, together with any volatile vehicle, including water.

For full information ask your dealer or write to

J. C. HUTZELMAN, M. D., GLENDALE, OHIO

Beekeepers' Supplies

Finest Quality
Right Prices
Prompt Service
Courteous Treatment

We solicit your patronage

Wm. Baldwin
24 N. Erie St., Toledo, Ohio

Authorized Distributor for
THE A. I. ROOT COMPANY.

Prompt service from Philadelphia on Root's Bee Supplies. Also large stock of glass jars, tin cans, shipping cases, etc., for marketing your honey crop. Write for our latest price list on honey containers.

A. I. Root Company
of Philadelphia
10 Vine St., Philadelphia, Pa.

4% BANKING BY MAIL

WHEN YOU MAIL

your savings to this bank you have just as much a "savings home," and are assured of just as painstaking consideration, as if you lived next door to this institution.

THE HOME OF THE HONEY BEE

THE SAVINGS DEPOSIT BANK CO. MEDINA OHIO.
E. B. SPITZER, PRES. E. R. ROOT, VICE PRES. H. E. AYLARD, CASHIER

You can have cash for your wax and old combs or cappings at the market price, or we allow a little more in exchange for supplies. Write for our terms and prices.

"Falcon"

Supplies--Queens--Foundation

W. T. Falconer Mfg. Company
Falconer, New York (near Jamestown)
"Where the best beehives come from."

Ask for catalog. ***Booklet, "Simplified Beekeeping for Beginners," free.***

Honey Containers

2½-LB. CANS, PER CARTON OF 100	$4.00
5-LB. PAILS, PER CARTON OF 50	3.50
5-LB. PAILS, PER CARTON OF 100	6.75
10-LB. PAILS, PER CARTON OF 50	5.00

Write for prices on lithographed pails.

Above packed in cartons which are dust proof, light, and easy to handle, keeping your cans and pails clean until you are ready to use them.

5-POUND PAILS, PER CASE OF 12	$1.10
10-POUND PAILS, PER CASE OF 6	.90
60-POUND CANS, 1 PER CASE	.90
60-POUND CANS, 2 PER CASE	1.25

Above packed in wooden reshipping cases.

Glass Jars

8-OZ. HONEY CAPACITY, TALL OR FLUTED, PER CASE OF 24	$1.05
16-OZ. HONEY CAPACITY, TALL OR FLUTED, PER CASE OF 24	1.35
32-OZ HONEY CAPACITY, PER CASE OF 12	.95

All above prices F. O. B. Reedsville, Wisconsin. Write for prices on large quantities of pails and glass jars, stating number and sizes wanted.

Sections

4¼ x 4¼ x 1½-INCH PLAIN NO. 2, PER 1000	$7.50
4 x 5 x 1⅜-INCH PLAIN NO. 2, PER 1000	8.00
4¼ x 4¼ x 1⅞-INCH BEEWAY NO. 2, PER 1000	9.00

SAVE MONEY on your supplies by getting our quotations on your requirements.

A. H. Rusch & Son Co., Reedsville, Wisconsin

WANTED

COMB HONEY—We are in the market for several thousand cases fancy and number one Comb Honey, packed in no-drip glass-front shipping-cases. Write us, telling how packed and what you want for it, freight prepaid to Cincinnati.

EXTRACTED HONEY—Send us a sample, telling us how you have it packed, how much you have, and what you want for it, freight prepaid to Cincinnati. No waiting for your money when you ship to us. We remit the day your shipment is received.

BEESWAX—We are always in the market for wax. Take advantage of the high market price today and ship your wax to us for cash or trade. You can have your wax worked into **MUTH'S THRIFTY COMB FOUNDATION** for a very small cost per pound.

OLD COMB—Send your old comb to us for rendering. Save that mess around the house. We render every drop of wax from the comb and pay you the market price for the beeswax less 5c per pound for our work of rendering.

CANS, PAILS, JARS, BARRELS, SHIPPING CASES, COMB CARTONS, and all other supplies. See our 1925 catalog for our low prices and ask your neighbor beekeeper about our high quality.

The Fred W. Muth Co.

Pearl and Walnut Sts. ***Cincinnati, Ohio***

September Queens

We are now enjoying a light honey flow, making conditions ideal for producing the very best queens. With our improved methods of queen-rearing and breeding queens better than before, our queens are making a great hit this season.

We now have in operation 1218 Jumbo nuclei and believe we can give reasonably prompt service for the rest of the season. Late requeening of strong colonies will put them in condition to produce the maximum crop of honey next season, while of course you want your weaker colonies headed by an A-1 queen before winter.

Prices for the Remainder of the Season

1 to 4 inclusive, $1.50 each; 5 to 9, $1.45 each; 10 to 24 inclusive, $1.40 each; 25 to 49 inclusive, $1.35 each; 50 to 74 inclusive, $1.30 each; 75 to 99 inclusive, $1.25 each; 100 or more $1.20 each. Breeding Queens, $10.00 each. Our book, "Queen Rearing-Simplified," $1.25, postpaid. Jay Smith Push-in Introducing Cage, 35c each, postpaid.

Jay Smith, Route Three, Vincennes, Indiana

Superior Italian Queens

Guaranteed to be as good as the Best

One or 1000 at **50c per queen**

Tested, one year old, at same price

Absolute Satisfaction Guaranteed

THE STOVER APIARIES

Tibbee, Miss. **Telegraph Office, Mayhew, Miss.**

NOTE—THIS SAME AD APPEARED IN THIS SPACE LAST MONTH. WE ARE DUPLICATING IT AGAIN BECAUSE THE RESPONSE FROM WESTERN PRODUCERS WAS SO GENERAL AS TO SHOW A GREAT INTEREST IN THE MATTERS DESCRIBED BELOW. WE BELIEVE IT WILL BE WELL WORTH YOUR WHILE TO INVESTIGATE THESE BARGAINS CAREFULLY.

Return the Coupon below and Save Money!

The most valuable list Western Producers will receive this fall is our 1925 container list.

For in addition to advantageous prices this list announces several items that are of utmost importance to Western Growers.

For example, this list---

Prices 60's in the bulk, at better prices—

Tells about our new corrugated cases for shipping 60 pounds of honey—

Tells about our successful Pine Display Case, which saves producers real money—

Makes special prices on honey tanks—

Explains about our corrugated cases, made especially for our trade, complete in packages of 10's, with tape to seal each case—

Tells about our new-style tall glass jar—

Never before have we been able to make such advantageous prices on the full line of container equipment. That is the reason we urge you to send in the Coupon furnished below. Descriptive literature with prices will be mailed to you at once.

A TWO-CENT STAMP SPENT TODAY TO RETURN THIS COUPON WILL RETURN DOLLARS TO YOU TOMORROW.

----------SERVICE COUPON—TEAR OFF AND MAIL----------

To The A. I. Root Company of Iowa, Council Bluffs, Iowa.

Please send me descriptive literature giving full details about the new packages listed on your 1925 container price list.

Name .....

Address .....

The A. I. Root Co. of Iowa, Council Bluffs, Iowa

"You just bet his work *counts*"

LEO is a stickler for cleanliness. Every morning his swarthy face fairly shines. And Leo carries his principles of cleanliness right into his job of cleaning tin sheets. With gusto he shines their surfaces to a mirror-like polish. All the dirt and oil collected from the time they were made just skoots before Leo's effort. Only when they glitter does he feel his job well done and the sheets ready for the next operation.

◆ ◆ ◆

THERE are many such Leo's in our plants—men who do the unexciting but very important work of cleaning sheet for lithographing. If the surface were not clean and smooth the finished job would be not what you want or what we'd be proud to call Canco lithographing. It's just a detail—but every detail counts, and as much care is given to them as to operations apparently more important. Hence the satisfaction of honey containers that are Canco Lithographed.

American Can Company

NEW YORK CHICAGO SAN FRANCISCO PORTLAND, ORE.

American Can

CONTAINERS OF TIN PLATE · BLACK IRON · GALVANIZED IRON · FIBRE

TRADE CANCO MARK